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Environmental sustainability trends of festivals

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ABSTRACT OF THESIS submitted by:
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The world today is facing many environment related challenges. Due to the technological improvements and the advanced medical services, there is an exponential increase in human population. This phenomenon is unsustainable, due to the finite resources of Earth. Population growth and human activities contributed to the issue of air pollution, global warming and climate change, to deforestation and land-cover change, to water pollution and the depletion of water resources and to biodiversity loss.

Festivals are known for their polluting and resource consuming measures, and they are aware of the environmental impacts they have.

Following the alarming messages of scientists and researchers about a very sinister future, an environmental movement started to rise. Beside average citizens, politicians and business leaders realized the need to move toward a more sustainable future.

Organizers of festivals began to contribute to the movement, by applying environmental sustainability practices at their events. This paper collects and examines the global trends of festival environmental sustainability initiatives and compares them to the biggest Hungarian festival, Sziget. An alternative approach to festival sustainability is presented by the Hungarian zero waste festival, Gyüttment. The survey conducted to substantiate the importance of the research question of the thesis, – What environmental sustainability practices do festivals apply worldwide? – gives further explanation as to why organizers should invest in such methods.

Keywords: environmental sustainability, festivals, sustainable development

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List of Abbreviations

3Rs Three R's

CO_2 Carbon dioxide

CO_4 Methane

CSR Corporate Social Responsibility

GHG Greenhouse Gas

GOTS Global Organic Textile Standard

IPBES Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

MDGs Millennium Development Goals

SDGs Sustainable Development Goals

TBL Triple Bottom Line

UK United Kingdom

US United States

WCED World Commission on Environment and Development

1 Introduction

Starting an essay with a related quote to the topic is something that is always enjoyable to do, as it allows the reader to take a quick peek at the subject, get a grasp of the essence of it with the help of a thought, view or resolution, carefully selected by the writer. Most of the time these are nice to read, and it is always good to start the discussion on a positive note if your topic allows it. However, when searching for a quote to kickstart this thesis with and convince the reader – You – to continue reading it, finding something that illustrates the topic well, and as mentioned before, starts the discussion on a positive note, was challenging. The reason for choosing this particular topic – environmental sustainability practices of festivals – already stems from the fact that we, humans are in trouble for neglecting the environmental impact of our actions for a long time now, and we are still continuing to do so. Therefore, finding an uplifting quote in relation to our everchanging environment was hard. Finding the right quote and setting the adequate tone to the thesis at the same time, was hard.

By the end of researching the quotes, I found myself conflicted and torn between two. In a funny way they seem like they are part of two people's conversation and one is reflecting to what the other had to say. The first quote is by the Canadian Wendy Priesnitz, an environmental advocate, a writer and editor of the Natural Life magazine (Priesnitz, n. d.). Change is upon us. We can choose to see it as frightening and incapacitating, or we can embrace the opportunities and move forward with hope towards a more sustainable world" (Natural Life Magazine, n. d.). The second one is by Greta Thunberg, a sixteen-year-old Swedish climate activist who is known for starting a series of school strikes and climate marches in 2018. "… I don't want your hope, I don't want you to be hopeful. I want you to panic, I want you to feel the fear I feel every day. And then I want you to act, I want you to

act as if you would in a crisis. I want you to act as if the house was on fire, because it is" (Fridays for Future, n. d.).

In my opinion both quotes acknowledge the fact that taking action now is more important than ever, but one is more hopeful and positive while the other suggests that we have no more time to be idle. Either way, the chosen quotes are trying to present that due to the changing state of our environment, whether you take it lightly or not, immediate action is needed. To fully understand the reasons behind the messages of the two quotes, the next sections are going to present the connection between humans and the environment.

1.1 Overpopulation

In this moment, according to the World Population Clock, there are 7.701.955.030 people on this Earth. 153.830 people died and 366.700 was born today (Wordlometers, n. d.). In 2025, around 8.2 billion people will live on this planet, if the estimates are correct. If the population of the Earth will continue to increase at an unchanged pace, 11.2 billion people will inhabit it in 2100 (Worldometers, n. d.).

After the Holocene, the Earth stepped into the geologic time period of the Anthropocene, – where "anthropo" means "human", and "cene" means "epoch" – human activities started to alter the geologic, biospheric, atmospheric, hydrologic and other type of earth system processes (Anthropocene, n. d.). Due to technological improvements and the advanced medical services humans are living longer lives, the world's population is exponentially growing. This phenomenon is not sustainable as the Earth's resources are finite. The consequences of overpopulation are already visible. Famine, diseases, the spreading of conflicts in the form of violence and wars, the rise in unemployment, ethnical conflicts and environmental issues like exhaustion of natural resources can all be traced back to the increasing number of humans (de Sherbinin, A. et al., 2007).

The population growth of industrialized countries is contributing to environmental degradation more than third world countries'. Thus, in favour of a sustainable world economy, countries of the North should pay increased attention to limit their resource use. As Garrett Hardin, a famous American ecologist described with his exposition of the "tragedy of the commons", "as long as incentives exist for each house-hold to privatize open access resources, then there will be a tendency at the societal level to overexploit available resources to the detriment of all users" (de Sherbinin, A. et al., 2007). In a North American family, 2.1 children are born on average, but because of a wasteful lifestyle they use as much energy and produces as much waste as 4.2 European, 13 Chinese or 168 Bangladeshi children (Könczey, R. and S. Nagy, A., 1997).

An estimated of 795 million people do not have the amount of food that meets their needs to live a healthy life. It means that one in nine people, - the majority of them living in developing countries - is facing hunger. Two thirds of Asia are hungry. Almost 100 million children – one out of six – is underweight in developing countries. 66 million children of these countries go to school without eating sufficient amount of food to get them through the day, 23 million of them is from Africa (Food Aid Foundation, n. d.).

Another social issue that overpopulation brings with itself is migration. A pressure to migrate from the South to the North and within the countries of the South, have been increasing. The reason behind migration is economic inequality. In hope of a better future, people migrate to places where better labour options, wages and living conditions are accessible. This trend is expected to continue given the constant pressure of inequality and population growth (Van Bavel, J., 2013). Human induced environmental issues such as climate change and water scarcity are also contributing to this migration pressure and can lead to ethnical conflicts and wars (Population Action, n. d.).

Migration can also be a factor regarding the spreading of diseases, and the vulnerability to for example malaria, HIV/AIDS or tuberculosis. Crowded cities and urban slums without proper sanitation and living conditions are contributing to the spreading of infections (Population Action, n. d.).

The environmental issues that overpopulation and human activities induce are presented in the next sections.

1.2 Air Pollution, Global Warming and Climate Change

Researchers, scientists and regular citizens of the world are becoming more and more worried about the continuously rising temperature of the planet. According to the Intergovernmental Panel on Climate Change (IPCC)'s report, the world is on its way to face the most difficult challenges due to the 1.0°C of global warming above pre-industrial levels. In 11 to 33 years, the warming caused by human activities is most likely to reach 1.5°C in case no serious measure is taken to cut down major carbon dioxide (CO_2) emissions (IPCC, 2018).

So why do these emissions need to be reduced? The warming of the Earth is caused by sunlight reaching it. Oceans, the land and air absorb 70%, to heat up the surface of Earth and allow life to happen, while reflective ground surfaces, clouds, the surface of oceans and atmospheric particles send 30% of this sunlight back (Riphah, U. S., 2015). The greenhouse gas (GHG) molecules in the atmosphere trap some of the heat and let the rest go to space. When the greenhouse gas concentration rises in the atmosphere, the molecules get more heat locked up in them. Methane (CH_4), carbon dioxide or water vapour are also known as greenhouse gases. In 1824, Joseph Fourier found out that without the Earth's atmosphere, it would be colder on the ground, and that the greenhouse effect allows the planet to have a liveable climate. In 1895, a Swedish chemist, Svante Arrhenius realized that the greenhouse

gases' concentration in the atmosphere could be artificially increased by humans, by making carbon dioxide. Due to the start of the Industrial Revolution, carbon dioxide levels have increased by 40%. Therefore, because of human activities, the Earth's temperature has started to change from being constant to continuously increasing especially in the past 150 years. These human actions involve the burning of fossil fuels to make electricity. 80% of the world's energy consumption is coming from fossil fuels, which by burning them produces carbon dioxide and other greenhouse gases (Nunez, C., 2019; Riphah, U. S., 2015; Public Agenda, n. d.). The dependence from this material is behind the altering of the atmosphere's composition by releasing airborne pollutants. The declining air quality, especially in developing countries, is as big of a threat to humans and human health as climate change (de Sherbinin, A., 2007).

The signs of the polluted air and climate change are already here and with the continuous emissions of heat-trapping gases and warming temperature it will bring more challenges that need serious action to prevent it.

According to scientists, global warming is behind the growing number of extreme weather conditions, such as heat waves, hurricanes and rainfalls which can lead to catastrophic events like forest fires or tsunamis (Public Agenda, n. d.).

With the warming climate, the amount of precipitation is changing, glaciers are melting, and the oceans are expanding which are all leading to coastal flooding. The most threatening from all, are the quick melting of the West Antarctica and Greenland, putting coastal communities in danger (Public Agenda, n. d.).

Precipitation can not only increase but at some parts of the world it can decrease as well. Paired with the rising temperature it causes droughts which disrupts the availability of water, thus leads to agricultural issues (Public Agenda, n. d.).

All these issues are leading to economic challenges, which according to some related studies could create similar or even worse problems than the Great Depression almost 90 years ago (Public Agenda, n. d.).

Although there is an ongoing debate about the certainty of the actual consequences of global warming, it is undeniable that we cannot risk waiting for these events to happen (Public Agenda, n. d.).

1.3 Deforestation and Land-cover Change

30%, 4 billion hectares of the world's natural lands are covered by forests (United Nations, n. d.). With their many different attributes, they are a major contributor to the Earth's proper functioning. Not only do they serve as a home for 80% of the terrestrial biodiversity of the world, but they are an important source of medicine, fuel, shelter, food, fibre and timber. From the 7.7 billion people of the world, 1.6 billion rely on them as different aspects of their lives – their subsistence, employment, income generation and livelihood – are depending on these forests. Besides providing livelihoods, forests also have the significant role of regulating water cycle, as well as capturing carbon dioxide CO_2, cleaning the air, and most importantly they fight soil erosion, desertification and climate change. They prevent and reduce the risk of landslides and avalanches, floods, droughts and sand storms (European Commission, 2019; United Nations, n. d.).

However, due to the increase of human population, forests are being cut down all over the world to satisfy the various needs of the people. Forests and natural lands are destroyed to allow more extensive food production by converting them into pastures, croplands or reservoirs. 85% of land is under some kind of anthropogenic influence and about 40% is used for agriculture (de Sherbinin, A. et al., 2007).

More than 50% of the tropical forests have been cut down in the past 60 years. With the continuing trends of logging, 13 million hectares of tropical rainforests – which equal the size of Greece – are disappearing every year. Losing forests in 2017, in a size of a football pitch every second is more than alarming (European Commission, 2019).

The destruction of forests have very important economic, social and environmental consequences at local and global level as well. For example, deforestation affect the global objectives of the European Union (EU), for example human rights, biodiversity protection, peace and security, climate change, the rule of law and good governance (European Commission, 2019).

1.4 Water Pollution and the Depletion of Water Resources

The water cycle is fundamental to ecosystems and the biochemistry of living organisms. It allows plants to grow, it functions as home for the aquatic species and it is a major part of the global biogeochemical cycles by transporting pollutants, nutrients and sediment. It is also used for human activities and it is vital for the human body to work (de Sherbinin, A. et al., 2007).

Researchers have explored the relationships between the human population and the use of freshwater for industrial, agricultural and domestic activities, as well as human induced water pollution. Globally, around 70% of water is used for agriculture as irrigation water. 23% is used by industries and 8% is used for domestic purposes. With the increasing population and changing trends in food consumption, – which means that animal protein is being more demanded than vegetable protein – the amount of water used for agriculture will most likely to increase (de Sherbinin, A. et al., 2007).

Falkenmark and Widstrand differentiated the availability of water for people. If the amount of water is 1000 and 1700 m^3 per person, they experience water stress. Water scarcity

is 500 to 1000 m^3 per person and absolute scarcity means less than 500 m^3 water per person. Parts of the world like the Middle East or Africa are already experiencing absolute scarcity (de Sherbinin, A. et al., 2007).

Besides water depletion, water pollution is a huge issue as well which in fact contribute to people not being able to access enough quality, drinking water. Pollution can come from many different sources and can be caused by many different things. Chemical water pollution is mostly caused by industries and agriculture. Groundwater pollution is when the aquifers are becoming polluted. Pollution can also be caused by microorganisms, particulate matter, biodegradable substances or excess amount of nutrients in the water (Water Pollution, n. d.). These contaminations are a threat to biodiversity, the aquatic systems and to human health (European Environment Agency, 2016).

1.5 Biodiversity Loss

Biodiversity depicts the well-being of the countless living beings of the Earth. There is a connection between living organisms in which they all have their specific role. Land, the atmosphere, plants, animals, water and humans are the natural assets of Earth. From these, an interdependent ecosystem forms which we can call the "web of life" (WWF, n. d.). All of the anthropogenic drivers mentioned in the previous sections– overpopulation, air pollution, global warming, climate change, deforestation, land-cover change, water pollution and the depletion of water resources – are contributing to the disturbances in the web of life, and thus leading to biodiversity loss.

A very recent assessment by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) stated that 1.000.000 species are getting closer to extinction. The rate of the decline in nature is never before seen in human history (IPBES, n. d.).

With the loss of biodiversity, human health is at risk as it depends on the properly functioning ecosystem's services and products, such as fuel sources, fresh water and food. The livelihoods of people are affected, changes in their income can cause migration issues and political conflicts (WHO, n. d.).

With the changes in biodiversity, future discoveries of important knowledge about the earth's systems can be limited or even worse, lost. As the biodiversity declines, discoveries of new pharmacological and medical knowledge to potentially treat diseases can be lost (WHO, n. d.).

Besides loosing possible cures for human diseases, human health can be affected in another way. Human nutrition is dependent on good food production, which is dependent on the quality of the soil, nutrients and the overall well-being of the biodiversity. However, to enhance successful food production, humans are recoursing to use methods, like fertilizing or spraying pesticides which actually impacts biodiversity in a negative way. Not being able to provide nutritious foods for the people can lead to serious health issues, which restrains them from being a productive member of society (WHO, n. d.).

If we continue to destroy the natural infrastructure that keeps the world going, and we keep threatening the one million endangered species, the world that we know today will cease to exist, as nature does not have time to replace its exploited parts (Watson, R, 2019).

1.6 Research Question

Us, humans are a part of this Earth. For letting our children and grandchildren to admire its beauty, we have to change, and we have to reduce our impacts on the environment. Luckily, due to the advancement of technology, the more and more scientific studies published every day and the new ways of online communication, the terrifying facts of a declining environment have reached the mass.

The most recent articles on the Internet are all about how certain countries are starting to realize the threat of climate change and in contrast, how worried human society should be because of the continuously declining environment and how indifferent some countries are regarding this threat. For example, in the climate change related news section on The Guardian, – which is one of the biggest daily newspapers of the United Kingdom – the articles are published with titles like: "Australians overwhelmingly agree climate emergency is nation's No 1 threat", "US is hotbed of climate change denial, major global survey finds", "Scotland drops aviation tax cut plans after declaring climate emergency" or "Human society under urgent threat from loss of Earth's natural life" (Murphy, K., 2019; Milman, O., 2019; Carrel, S. 2019; Watts, J., 2019).

As the message reaches its audience, pressure is applied not only on the regular citizens, but on the different industries as well. The entertainment sector is one of these industries. Events, and festivals in particular are applying a lot of pressure on the environment, in a short amount of time. Not only do they have an impact on the environment, but they have the possibility to influence their attendees during the event. Knowing this, organizers are seeking ways to improve the sustainability of their events while guiding their attendees towards living a more environmentally friendly lifestyle.

Therefore, the purpose of this thesis is to explore the notion of sustainability and environmental sustainability and how it appears at events, with a particular focus on festivals.

The main research question that gives the thesis a frame is: What environmental sustainability practices do festivals apply worldwide? The second part of the research is to find out which of these practices does the Hungarian festival, Sziget applies. To give an alternative, another Hungarian festival, Gyüttment Festival will be presented with its zero waste practices. Through the analysis of a questionnaire, attendees' perceptions of the different methods will be discussed as well.

To be able to give a detailed, comprehensive answer to the main research question, and to logically guide myself - the researcher - and the reader through the paper, sub-questions were formulated which are the following:

1. What is sustainability?
2. What is the relationship between sustainability and event management?
3. What are the environmental impacts of festivals that contribute to the issues mentioned under the Introduction part?
4. How do they contribute to those issues?
5. What measures can be taken to avoid or alleviate the festivals negative impacts?
6. What are the trends showing, which measures are applied at festivals?
7. What measures do Hungarian festivals apply?
8. Are there any alternatives?
9. What do attendees think about festival's environmental ambitions?

With regard to the above-stated questions, I will try to formulate a comprehensive report about international and Hungarian festivals' environmental sustainability practices.

2 Literature Review

This chapter presents the findings of the in-depth literature review about sustainability concepts and theory and the impacts of festivals.

2.1 Sustainability and Sustainable Development

In 1987, a report called 'Our common future' was published by the World Commission on Environment and Development (WCED). Another name for the report is the "Brundtland Report" after the Norwegian chairwoman of the Commission, Gro Harlem Brundtland. The document explains that global environmental problems arise because of the unsustainable overconsumption and production of the North and the immense poverty of the South. To battle these differences and unite the environment with development, the policy concept of sustainability and sustainable development were created (ARE, n. d.).

Sustainability as a concept was first used with regard to forestry, where the term is understood as never take more than what the forest can give when it comes to its new growth. The roots for the fear of losing valuable natural resources can be traced back to the Palaeolithic times, where our predecessors were trying to save their prey from dying out (Kuhlman, T. and Farrington, J., 2010).

In the 18th century, the decrease in natural resources started to concern not only scientists, but economists as well, therefore sustainability became a topic of research for them, too. In 1798, Thomas Malthus, a famous English economist came up with his theory of an imminent mass starvation, where the land used for agriculture cannot produce the amount of food that is needed to feed the ever-growing population (Kuhlman, T. and Farrington, J., 2010). Many years later, in 1946, another economist, Sir John Hicks talked about sustainability in close connection with income, where "he defined income as the amount,

whether natural or financial capital, one could consume during a period and still be as well-off at the end of the period" (Khalili, N. R., 2011).

When the Club of Rome published its report – The Limits to Growth – about the exhaustion of some of the most important natural resources within only one or two generations, sustainability came into the focus of attention of public policy worldwide (Kuhlman, T. and Farrington, J., 2010; Meadows, D. H., et al., 1972). From then, with the term sustainability, public policy related goals were described. After the publication of The Limits to Growth, policies had a pessimistic undertone to them. This changed with the Brundtland Report's novel ideas and the application of the new sustainability concept (Kuhlman, T. and Farrington, J., 2010).

Because of the content of the United Nations and Brundtland Commission, sustainability became a globally discussed topic. Every nation and its institutions have been discussing the definition of the concept and how it applies to their functionality, operations and values. For example, according to Solow, sustainability is an "obligation or injunction to conduct ourselves so that we leave to the future the options and the capacity to be as well-off as we are, not to satisfy ourselves by impoverishing our successors" (Khalili, N. R., 2011). As it became evident that the deterioration of the environment is connected to human activities, new sustainability concepts were formed. Although there are already many concepts of sustainability, due to continuously learning its complexity, the concept is evolving and changing to this day. (Khalili, N. R., 2011).

As mentioned in the previous two paragraphs, with the publishing of the Brundtland Report, the concept of sustainability became a globally discussed topic, and with the urge to unite the environment with development, the completely new concept of sustainable development was created. The now common term of sustainable development was drew up by the chairwoman, Gro Harlem Brundtland herself. In her words: "Sustainable development is

development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (ARE, n. d.). Sustainable development is now understood as "an approach to development that looks to balance different, and often competing, needs against an awareness of the environmental, social and economic limitations we face as a society" (Sustainable Development Commission, n. d.). The practice of focusing on the three dimensions of sustainability today– the social, the environmental and the economic – is confirmed by the wording of sustainability in the United Nation's Agenda for Development: "Development is a multidimensional undertaking to achieve a higher quality of life for all people. Economic development, social development and environmental protection are interdependent and mutually reinforcing components of sustainable development" (Kuhlman, T. and Farrington, J., 2010). Because most of the time, development is done without considering its impacts on the future, the need to include sustainability is now more important than ever (Sustainable Development Commission, n. d.).

Sustainability and sustainable development therefore became the "leading global framework for international cooperation" (IISD, n. d.).

In the 2030 Agenda for Sustainable Development 17 Sustainable Development Goals (SDGs) have been set up with different targets to be reached by 2030. The set goals are intended to be applied globally, which means that not only poor, but wealthier countries are included. To reach these goals, actions are needed starting from smaller scale – the people – to bigger scale – civil societies, industries, governments and businesses (IISD, n. d.). The next section will elaborate how these SDGs have been prepared.

2.2 Sustainable Development Goals

The participants of the 1992 United Nations Conference on Environment and Development, also known as the Earth Summit, for the first time, started to consider

environmental factors and biodiversity when developing an agenda that would favour sustainable development.

To check up on the progression of what was agreed at the Earth Summit, heads of state gathered eight years later in 2000, at the United Nations headquarters. The result of the meeting was the adoption of the Millennium Declaration and the Millennium Development Goals (MDGs) within. The aim of the targets included in the MDGs was to improve the population's lives worldwide by 2015. The varying goals included for example the tackling of climate change or sanitation issues as well as hunger eradication. Although the goals were very ambitious, their execution within the given timeframe presented some problems. The United Nation's 2014 report showed that while some objectives have been met in time, others were still waiting for execution due to limitations, such as poor governance, the absence of properly trained staff or barriers at the system-level (McInnes, R. J., 2018).

After the Earth Summit, to continue and develop the MDGs, global leaders alongside of delegates from nongovernmental organizations and the private sector have gathered once again 20 years later, in 2012 (McInnes, R. J., 2018). The focus of discussion at the Rio+ 20 United Nations Conference on Sustainable Development were: "how to build a green economy in order to deliver on sustainable development while lifting people out of poverty and how to improve global co-ordination for sustainable development" (McInnes, R. J., 2018). In the document titled "The Future We Want", the Sustainable Development Goals were identified (McInnes, R. J., 2018).

The zero draft of the SDGs was published by the United Nations in 2015. It evaluates the achievements of the MDGs and reflects on the goals that were not reached within the timeframe. The aim of the SDGs is to continue and complete what was set in the MDGs and "strengthen universal peace and shift the world on to a sustainable path" (McInnes, R. J., 2018).

In order to do so, the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals were adopted the same year by countries from all over the world at the United Nations Sustainable Development Summit. In the agenda, a future is described where natural resources and the planet itself is protected and used in a sustainable way and where poverty, inequalities and climate change are dealt with (United Nations, n. d.; McInnes, R. J., 2018). As McInnes (2018) describes: "The SDGs, along with the associated targets, are intended to be integrated and indivisible, global in nature, and universally applicable. They take into account the realities of different national circumstances, capacities, and levels of development and also pay respect to sovereign policies and priorities. Targets are defined as aspirational and global, and it is the responsibility of each government to establish its own national targets based on the overarching global level of ambition" (McInnes, R. J., 2018).

The 17 SDGs are the following:

- 1. No poverty
- 2. Zero hunger
- 3. Good health and well-being
- 4. Quality education
- 5. Gender equality
- 6. Clean water and sanitation
- 7. Affordable and clean energy
- 8. Decent work and economic growth
- 9. Industry, innovation and infrastructure
- 10. Reduced inequalities
- 11. Sustainable cities and communities
- 12. Responsible consumption and production

- 13. Climate action
- 14. Life below water
- 15. Life on land
- 16. Peace, justice and strong institutions
- 17. Partnership for the goals (United Nations, n. d.)

The SDGs came into force on 1 January 2016 and since then, they are helping with decision-making (McInnes, R J., 2018).

2.3 Environmental Sustainability

As mentioned in the section about Sustainability and Sustainable Development, economic, social and environmental development are all important parts of sustainability and sustainable development.

The focus of economic sustainability is on the natural resources which are the main components of the different production processes. “In economic terms, sustainability can be described as the “maintenance of the capital” or “nondeclining capital” in which capital is referred to as man-made capital” (Khalili, N. R., 2011).

Social sustainability is dealing with human development and poverty. The main aim of sustainable development is to reduce poverty. In order to do that, the environment has to be managed and used sustainably (Khalili, N. R., 2011).

After briefly presenting what economic and social sustainability means, the concept of environmental sustainability is presented, as it is important to gain knowledge about it in order to understand why sustainability is important at event management and at festivals.

Environmental sustainability means that natural resources and the “life-support systems” like the soil, atmosphere or the water are taken into consideration when using them

for the production process (Khalili, N. R., 2011). To be able to support economic and social sustainability, the depletion of resources and damage caused by humans to the point where environmental sustainability cannot be maintained, must be prevented (Khalili, N. R., 2011).

2.4 Events and Festivals

According to Getz (2007), "planned events are spatial-temporal phenomenon, and each is unique because of interactions among the setting, people, and management systems – including design elements and the program". Another definition from the Accepted Practices Exchange (APEX) Industry Glossary of Terms refers to events as "an organised occasion such as a meeting, convention, exhibition, special event, gala dinner etc. An event is often composed of several different yet related functions" (Musgrave, J., and Raj, R., 2009). What is exciting about events is that they give a different experience each time someone participates in them (Getz, D., 2007).

Today, based on their scale, size and scope, we differentiate six types of events: social, mega, special, major, community and hallmark events (Musgrave, J., and Raj, R., 2009).

With time, the planning of the events has become the responsibility of entrepreneurs and professionals instead of individual initiatives. This is because the volume of events has grown so huge, that amateurs simply could not fulfil the set strategic goals (Getz, D., 2007).

These professionals started to specialize on the different kinds of events, for example commercial events or festivals. As Getz (2007) says, "festivals are a kind of social construct that shapes people's expectations of what they offer in terms of programming, and even where they are held and how they are organized". They are "an organized set of special events, such as musical performances" (Cambridge Dictionary, n. d.). Most of the festivals are seen as cultural celebrations and they are in the non-profit and public sectors (Getz, D., 2007). Events,

therefore, bring cultural and social values with them, and they contribute to social inclusivity by creating a sense of belonging (Musgrave, J., and Raj, R., 2009).

The tourism industry and private entrepreneurs realized the possibility to earn money from organizing festivals, therefore these events have become an important part of tourism all over the world (Getz, D., 2007).

2.5 The evolution of events research

Due to the increasing possibility of being able to earn enough money and to have more leisure time, events became organized throughout the world at the end of the 20th century. In the 1980s, governments all over the world started to realize that by organizing events, the events are able to achieve various positive impacts. This have been confirmed in the beginning of the 21st century. The events are now contributing to the development of urban regeneration, tourism, arts, education and culture. Organizing an event now automatically means the generation of social and economic benefits to the region where the event is held. Due to this reason, events and the event industry gained significant importance worldwide (Mair, J. and Whitford, M., 2013).

Through the examination of different types of events, such as business or cultural events, it became visible that all of them demonstrated that they "are occasions for (re)affirming or contesting the social order, building group and place identity and fostering social networks" (Mair, J. and Whitford, M., 2013).

For 30 years, from the 1970s, the focus of research shifted towards special events and festivals with a special attention to their financial and economic impacts as well as their management, marketing and other different trends. This continued on to the beginning of the 21st century. At that time, the relationship of events and the environment became a topic of

interest as well for some researchers, although only two paper were published which were looking into the environmental impacts of events (Mair, J. and Whitford, M., 2013).

After years of predominantly focusing on the economic aspects of events and festivals, the focus of research has matured and broadened. Researchers started to explore the greening of events, after examining the relation between the host destination and the impact of events on them. Studies were looking into how environmentally friendly practices affected events and what management decisions were made to reduce the event's ecological footprint (Mair, J. and Whitford, M., 2013).

Because of the environmental aspect gaining more and more interest, it was unequivocal that sustainability and its new related approaches become a widely discussed topic (Mair, J. and Whitford, M., 2013).

2.6 Sustainable Event Management

As the global temperature is rising, the Earth's climate is in constant change. People in charge of the social and political decision making became aware of the issue and started to create international strategies to prevent further deterioration caused by producing CO_2. The aim of the strategies now, is to create a low carbon economy. By doing so, economy is constantly affected by new strategic, operational and functional impacts (Musgrave, J. and Raj, R. 2011).

With sustainability becoming important in the event industry, sustainability principles and practices started to appear at events, such as the Expo World Fair in 2000 or at the Olympics with Norway introducing the green games for the first time in the history of the global sports event (Musgrave, J. and Raj, R. 2011).

Sustainable event management and its practices is a result of many years of discourse on the topic. This continuity and evolving can be seen within the concept as well, as to be able

to successfully maintain the sustainable management of events, each and every generation has to participate in the task and hand it down to the next. For the generations to carry this on, they have to be able to change their attitude, they have to realize the real cost of waste, they have to create a transparent product life cycle and they have to put more effort into supply chain pressure (Musgrave, J. and Raj, R. 2011).

The constant changes in the market require principles or a framework that is able to adapt to them. An event can only be successful when these principles or framework is implemented. Another challenge to fulfil the sustainable management of events, is the impact that these events put on the ecological and physical environments. As the number of event and festival attendees increase every year, the challenge grows bigger. Another requirement to success is that the framework that is developed, suits the "internal and external events environment" (Musgrave, J. and Raj, R. 2011). At last, the framework has to mitigate the negative impacts, that are caused by the consumptive nature of the events (Musgrave, J. and Raj, R. 2011).

This section will be concluded by summarizing and explaining what the key steps are to successfully implement sustainable event management practices. It will also use this as a framework when collecting the different sustainability methods of festivals. The first step towards the successful management of sustainable events and festivals is preparation. In order to be able to judge whether the plans will be useful or not, preparation in advance is indispensable. The events industry is generally constrained by deadlines and contracts, while it is constantly forced to create an unforgettable experience at the same time. When coming up with new ideas, organizers have to take into consideration the resources that are needed to bring these ideas to life (Musgrave, J. and Raj, R. 2011). When choosing materials, they have to keep the waste hierarchy or the 'three R's (3Rs) in mind (Musgrave, J. and Raj, R. 2011; EPA, n. d.; Conserve Energy Future, n. d.). According to the waste hierarchy, the most

favourable action is to avoid or reduce the amount of waste, if that is not possible reusing and recycling the waste is still a good option. The waste that still remains can be used to recover energy and it can also be treated. The least favourable option after these, is to dispose of the waste in a way that is not stressful for the environment (EPA, n. d.). The 3R's are another shorter version of the waste hierarchy, where the three R means to reduce, reuse and recycle (Conserve Energy Future, n. d.). When planning the logistics and the procurement of the events, sustainability aspects have to be taken into consideration there, too. Keeping up with the newest sustainability trends, perfecting and reaching the newly set targets, coming up with new ideas and keeping new technological improvements in sight is vital for sustainable event management. Examining and taking into consideration every element of a system that is fundamentally very resource demanding is key as well. Starting the change from the smallest, most unnoticeable things, such as making the tickets electronic that are usually distributed in paper form at the festivals can make a huge difference in the overall sustainability of these events (Musgrave, J. and Raj, R. 2011).

Lastly, to fully mitigate the negative impacts of the intensive resource consumption at events, organizers have to apply the Triple Bottom Line (TBL) approach, known as three pillar impacts as well, where the social, environmental and economic aspects of sustainable event management are being payed attention to (Musgrave, J. and Raj, R. 2011).

2.7 Triple Bottom Line Approach – A conceptual framework

The Triple Bottom Line concept was first presented at the Brundtland Commission, but got its official name 7 years later, in 1994, by John Elkington. According to the theory, an organization has to take into consideration these three things: People, Planet and Profit. With other words, when making decisions, a company has to consider social, environmental and

economic aspects at the same time. It can only call itself sustainable if the Triple Bottom Line aspects are all considered (Księżak, P. and Fischbach, B., 2017).

In order to fully understand the Triple Bottom Line approach, the concept of Corporate Social Responsibility (CSR) has to be introduced briefly. CSR was created based on the Triple Bottom Line approach. Corporate Social Responsibility means that a corporation is liable for the actions it chooses to make. It is responsible for the society, for its employees, for the environment and for the market as well (Księżak, P. and Fischbach, B., 2017).

The main driver behind taking responsibility is the deteriorating environment, as it is with all the sustainability related concepts, practices and policies, but the priorities can be different in every country. Preventing the damaging of the environment might mean cost savings, so companies who are more invested in economic benefits, they prioritise this. Another might favour taking part in social deeds, like trying to reduce poverty. Some may say that their workers are the most important for them, so they provide great working conditions (Księżak, P. and Fischbach, B., 2017).

The Triple Bottom Line approach is one of the key areas of Corporate Social Responsibility, but not the only one. Many researchers think, that the concept is deficient, and it should include more fields. However, the Triple Bottom Line is helping to identify what practices and policies are falling into the category of Corporate Social Responsibility (Księżak, P. and Fischbach, B., 2017).

By examining events from the TBL approach, it can be stated whether an event is sustainable or not. The thesis will consider the Triple Bottom Line approach, when collecting the festivals' methods to decrease environmental deterioration.

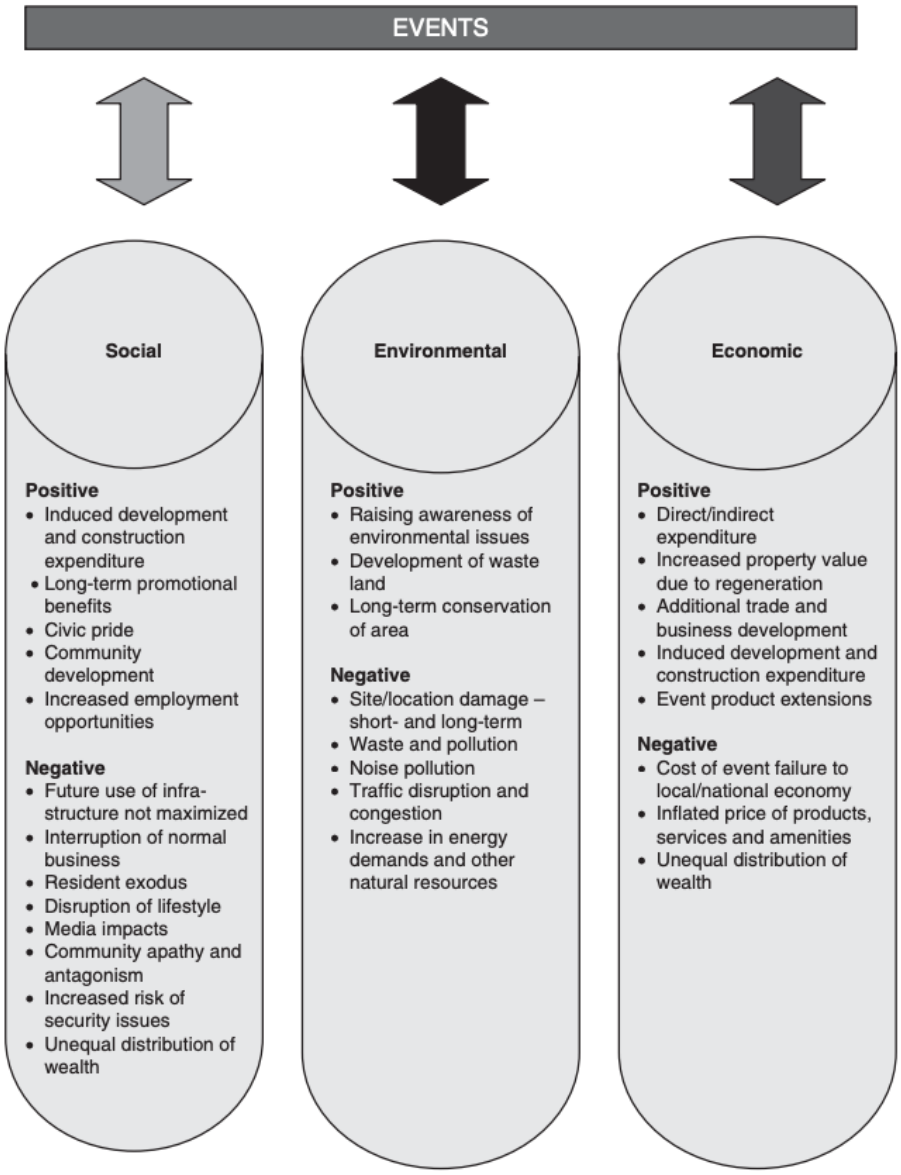

Figure. 1 The Triple Bottom Line (Musgrave, J. and Raj, R., 2009).

2.8 The Environmental Impacts of Festivals

To be able to collect and discuss the environmental sustainability methods of festivals, first, the environmental impacts of these events have to be identified.

As mentioned earlier, not only academics and policy-makers, but event organizers started to realize the impact of events and festivals on the environment. The emerging trend of creating sustainable events contributed to the advancements in the field in the past years. For

example, in order to be able to create an economically, environmentally and socially sustainable and responsible event more easily, the International Standard ISO 20121 for Sustainable Event Management was developed. Besides this, organizations were founded, like A Greener Festival and the Sustainable Event Alliance. More technical innovations were created as well, such as the Julie's Bicycle Creative Industry Greening Tools which is a software tool, just like the Carbon calculators (Collins, A. and Cooper, C., 2017).

These tools are allowing to measure emissions in the air, on the ground and in the water and they are also able to track the resource use of the events.

So, what kind of impacts do exactly festivals have on the environment? Although every festival is unique, all of them impacts the same parts of the environment, meaning that these events, due to their resource-led and polluting nature, are putting pressure on the water, on the air and on the ground no matter what part of the world they are held at. As Holmes et al. (2015). specifies: "the physical location and timing of a planned event, together with the scale and type of event can determine the nature and extent of environmental impacts it will have".

Events and festivals usually have some "general impacts" (Holmes et al., 2015) which can be good or bad. This paper focuses on the many negative impacts of festivals that are all contributing to the issues we face globally, presented in the Introduction chapter. Event organizers have the possibility to reduce these impacts by applying the corresponding management practices (Holmes et al., 2015).

The exact environmental impacts are the following:

2.8.1 Litter and Waste

As there are more and more people on the planet, there are more and more waste generated each day. Although waste generation is one of the most conspicuous habit of humans, finding a holistic solution still remains a task for future generations

Waste generation is an inherent part of events and festivals especially. They are also the most striking impact of festivals as the generation starts even before the event itself starts and lasts until the very end (Johnson, C. et al., n. d.).

The vendors invited to sell their goods – be it food, drinks or merchandise – are bringing items to the festivals that are either packaged in plastics or other materials or are disposable. When someone enters a festival, just by looking at the amount of trash, they can measure the quality of the environment immediately. Garbage in a natural environment is perceived as a negative impact and it usually brings negative feelings with it. Seeing waste throughout the area of the festival can be a factor to ruin the attendees' good experience with the event, which can later dissuade them from coming back to the festival again. Thus, careless waste management can cause economic problems for the festivals in the long term (Holmes et al., 2015).

Besides social and economic consequences, litter can impact the natural state of the environment. It can influence the cleanliness and free flow of waters for example, but it can also pose a threat to animals which can be hurt or killed by waste that is not at their designated location. Festival attendees' carelessness of throwing cigarette butts which contain harmful substances and leaving trash that animals either eat or get tangled in, are seriously contributing to ecological degradation. Littering with materials that are known to have a long degradation time or are not able to degrade at all, are causing long term problems for the environment (Holmes et al., 2015). Such materials are plastics, which are an emerging threat to animal and to human life as well. Millions of animals die in the oceans each year, because

of plastic getting in the waterways, and studies now confirmed that human health is affected by the small plastic particles, microplastics. The even smaller particles are called nanoplastics, which according to some researchers can get into both animal and human tissues (Parker, L., 2018).

In the long term, the disposal of waste can be problematic too, due to landfill sites being limited. Eventually, the spaces get full and there will be nowhere to put the waste. Burying them under ground can lead to toxic materials leaking and contaminating the ground, but it can also create pollutant emissions (Holmes et al., 2015).

Therefore, solving the waste issue at festivals is of great importance.

2.8.2 Air Pollution

Air pollution causes both short term and long-term problems for the environment and for human health. The associated emissions of festivals are linked to onsite activities like the use of mains power or generators, but it can also happen outside of the festival territory, with the transportation of necessary equipment and the travel of attendees. To bring the festivals to life, many energy and fuel consuming equipment is needed which usually produces emissions, like carbon dioxide or methane and even particulates. Carbon dioxide and methane are what researchers call greenhouse gases, and they contribute to climate change as it was described in the Introduction chapter. Methane is known to be a dangerous, climate change accelerating compound due to its heat trapping ability in the atmosphere. With such emissions, air quality of the immediate environment of the festival can be reduced easily, thus causing human health issues (Holmes et al., 2015).

But the only dangerous emissions are not just from energy generation and transport, they can also be caused by the activities or programs of the event itself. Many festivals use fireworks during their events, which can lead to gas generations and particulates are released

into the air as well. According to a study about the Chinese Spring Festival's use of fireworks, the activity caused air pollution to grow significantly – five times bigger – compared to an average day without the festival (Holmes et al., 2015).

The amount of emissions is also dependent on the type of events, for example a festival that allows its attendees to camp and create camp fires, contribute to the decrease in air quality and the increase in particulates in the air, due to burning wood or fuel. This also effects the environment both in short and in long term (Holmes et al., 2015).

Preventing air quality from decreasing is a great challenge for festivals.

2.9.3 Energy Consumption

Electricity generation can contribute to air pollution, therefore, the more energy efficient the method, the more beneficial it is for the event and for the environment. Because electricity use is a necessity at festivals, it is important the use the most efficient methods.

Energy consumption can be reduced by switching the necessary equipment to more efficient ones, like LED lighting at the campsites or at the stages (Marchini, B, Fleming, P. and Maughan, C., n. d.).

Optimizing the size of generators used at the festivals are important, too. Most festivals use generators that are too big for their events, therefore they used more fuel and more power, as well (Marchini, B, Fleming, P. and Maughan, C., n. d.).

Switching to renewables can be a good option and festivals have to consider these energy consumption reducing methods to prevent pollution and the excessive use of energy.

2.8.4 Water Consumption and Pollution

As mentioned in the Introduction chapter, the world today is threatened by water related issues, such as water scarcity or water pollution. As the report about UK festival's

environmental impacts, written by Powerful thinking – the "industry think-do tank", as they call themselves –titled "The show must go on" describes: "Whilst carbon emissions attributable to direct water use at events is negligible in comparison to energy or waste, it is something that perhaps should still be considered in a wider context" (Johnson, C. et al., n. d.). The needful use of water during festivals, distributed in plastic bottles are causing issues in many aspects. Organizers have to take into consideration impacts from transportation through the supply chain to waste management. The plastic bottles that are not being recycled during UK festivals each year, could fill the Wembley Stadium twice, according to estimations (Johnson, C. et al., n. d.).

Besides plastic posing a threat to the different water bodies, the spilling of fuel, cleaning chemicals, oil or other kinds of pollutants may harm waterways. The simplest, most ordinary habits, like using the toilet or washing hands and other water consuming and thus waste generating activities are endangering the aquatic ecosystem. Each festival has to have a waste management plan, adapted to the attributes of their event, because for example, the inadequate management of waste water can directly affect groundwater if the festival is outdoors. Even if the sewage produced by attendees get treated, it might still negatively influence the underwater wildlife and human health. Another negative aspect of organizing an outdoor festival is - due to not having enough or not sanitary enough toilets - the possibility of directly urinating on the ground and thus, contaminating it and the waterways by leaching. Doing so can lead to the spread of bacteria and algae in the waters which results in eutrophication, and the death of aquatic life. The spread of an especially dangerous byproduct of bacteria, called botulinum can infect animals and humans, too (Holmes et al., 2015).

Festivals, therefore, have to make sure that they take all the appropriate action to prevent the damaging of water quality and aquatic life.

2.8.5 Noise Pollution

As mentioned in the Introduction chapter, a never before seen amount of species are facing extinction today.

With urban growth, more and more species and ecosystems became altered and damaged. The artificial lights and sounds created by humans impacted and still impacts animals and plants, too. Man-made noise can come from many sources, for example, from ships, traffic, aircraft or industrial activities (Sordello, R. et al, 2019).

After many years, researchers and legislators realized that noise emissions have to be regulated, focusing not only on humans, but on the biodiversity as well. Noise emitted even outside of cities, for example in the air can disturb living beings. Researchers found that sound in itself is not a major issue, as even animals are producing them, but when sound turns into noise that is when the problems occur, because they lose their ability to communicate between each other. Besides their communication, noise can impact the habitats where they live or their ability to reproduce. The impact of noise pollution is so big, that it concerns "birds, amphibians, reptiles, fish, mammals and invertebrates" (Sordello, R. et al, 2019).

Noise is an inherent part of festivals and events, thus festivals organizers have to be prepared to alleviate the pollution's impacts. This will help attendees come back in the subsequent years because they will not lose their hearing due to incredibly loud music, and the creatures of the local biodiversity will be able to continue on with their lives during and after the event.

2.8.6 Vegetation Loss

Depending on the size and duration of the festivals, they put a lot of pressure on the geographical area they are held at, usually in a short amount of period. Trampling the vegetation has a direct impact during the festivals held outdoors, but its effects might stay and

present an issue for longer term. The vegetation can be damaged by vehicles going around at the festival territory or by pedestrians. Many festivals try to fight this issue by putting mobile surfaces and covers on the ground, but to cover the whole area of even a small event is not possible. Therefore, when it cannot be arranged, the large amounts of attendees stomping the on the ground results in soil compaction, erosion and vegetation loss. Vegetation loss means that the grass and other plants are damaged so much that it would take a long time for them to recover, if only they are able to recover. Erosion happens when there is no plant coverage on the ground, and nothing acts as a binder to the soil, so water can easily wash away the soil. Due to erosion, the nutrients are washed away from the soil, thus not allowing the growth of new plants. Soil compaction also takes part in preventing new plant growth, because the decreased ability to let water and air penetrate into the ground, makes it harder for seeds to germinate. Some festivals are held at places that are already sensitive to changes, so large amounts of people trampling there is a problem (Holmes et al., 2015).

Vegetation loss can also occur due to chemicals leaching into the ground, which was mentioned in the previous section.

To prevent excessive damage in soil quality and vegetation, planning and prevention is a necessary step that festival organizers have to do, before they allow any activities on the event's territory (Holmes et al., 2015).

3 Methodology

This chapter will present the research methodology of the thesis. It will outline how the thesis was built, what kind of research method and design it has, and it will also address the limitations occurring during the research.

3.1 Qualitative Research Design

The objective of the thesis was to explore the different environmental sustainability practices of festivals from around the world, and from Hungary, and also to investigate attendee's willingness and opinion on these greening methods. The related research questions were presented in the first chapter.

The most suitable type of research method for this thesis was qualitative research and the use of case studies. Qualitative research allows to interpret observations, qualitative data, and already existing data. Interviews, case studies or observational texts are all considered to be part of a qualitative research (Roudgarmi, P., 2011). In the following, the different parts of qualitative research are presented in context of the thesis.

3.1.1 Literature Review and Content Analysis

Firstly, as part of the qualitative research method, a comprehensive literature review was carried out. Doing so was important in order to be able to put the topic – environmental sustainability practices of festivals – into context. Literature and content were retrieved through Google, Google Scholar and Mendeley. For the audience to understand why this exact topic was chosen, the first chapter introduced all the challenges humanity faced regarding the changes in our environment. Analysing studies' and websites' content helped to explain what consequences overpopulation has, it helped to bring awareness to the issues of air pollution, global warming, climate change, and deforestation and land-cover change. But it

also allowed to provide details about water pollution and the depletion of water resources and biodiversity loss. What was described in the Introduction, was later connected to the festival's impacts and how they contributed to the environmental challenges of the world.

It also enabled to explain why sustainability and environmental sustainability is important. In the second chapter, the concepts of Sustainability and Sustainable Development and the Sustainable Development Goals were discussed. The reason behind that was to make the reader understand why the different festivals' chose to create sustainability practices. Explaining the concept of Environmental Sustainability and the Environmental Discourse allowed the reader to get a glimpse into the development of the concept. To put an important part of the topic – festivals – into context, the concept of Events and Festivals and the Evolution of Events Research were presented. The Sustainable Event Management section give an explanation beforehand, as to why there are more and more sustainability practices at festivals.

Then, through literature review, festivals' environmental impacts were identified. These impacts are litter and waste, air pollution, energy consumption, water consumption and pollution, noise pollution and vegetation loss. It was important to collect and examine the impacts because later in the thesis, the environmental sustainability practices of the chosen festival were connected to them.

Seven festivals were chosen, to collect and analyse their practices. During selection, an important aspect was to analyse festivals that are located at different parts of the world, to see how similar or different their practices are. When choosing the festivals, the standpoint also was to be able to gather enough amount of sources to allow the precise presentation of their practices. After examining them, the two Hungarian festivals were presented and analysed with the help of content analysis and interviews.

3.1.2 Interviews

In order to have the most up to date and precise information about Hungarian festivals' environmental sustainability practices, and include the organizers perspective, two interviews were carried out and examined as case studies. Originally, it was planned to include two other festivals, but they either could not be reached, or they did not have enough data on the topic. The reason why Sziget and Gyüttment Festival were chosen is that Sziget is known to be the biggest Hungarian festival, therefore comparing it to the seven international festivals enabled to compare very similar festivals and the reason why Gyüttment was chosen is because with it, an alternative approach could be offered to the other festivals.

The interview questions were formulated following the in-depth literature review, therefore it allowed me to ask the most accurate questions related to the topic. The questions were grouped accordingly to the findings about festival environmental impacts. 39 questions were asked in total during the personal meetings with Sziget and Gyüttment Festival's organizers, Ákos Dominus and Dorottya Harazin, and the questions allowed to start an open discussion with them.

3.1.3 Survey

To give an understanding about the importance of environmental sustainability practices at festivals, the thesis involved the opinion of attendees about them.

Data collection was carried out with the help of a questionnaire, which included general questions for statistical purposes to find out about the respondents. The main 21 questions were related to attendees' experience, knowledge, willingness and opinion about environmental sustainability measures at festivals. This helped in justifying the thesis's topic and that environmental awareness and sustainability at festivals are of high importance to attendees, too. The questions were correlating with each other, the typical type of questions

were closed questions, but open ones were asked, too. There was a possibility to give other answers in several places as well. The questions were filled out by random selection, therefore the sampling was not representative.

3.2 Limitations

The biggest limitation to the chosen topic was the lack of literature, but it was also the reason why this specific topic was chosen. Exploring the topic of environmental sustainability practices of festivals from around the world is something that cannot be found on the internet. The UK festival sector is very good at collecting and presenting their methods, therefore this thesis aims at following the example of those reports, and prepare one that includes festivals from around the world. Not having any official reports of Hungarian festivals' environmental sustainability practices also encouraged the writing of the thesis, but as mentioned, it was also a considerable limitation to preparing a comprehensive paper.

To find the fitting sustainability practices to the identified environmental impacts, many websites and articles had to be analysed, because none of them had a proper Sustainability Report or a collection that contained all their practices in one place. Also, when finding their practices, there were very little information provided about their success or even their precise way of implementation.

To support and complete the information gathered about the Hungarian festivals, interviews were carried out. The limitations to the interviews were the availability of organizers, and the lack of data about the festivals' practices. Trying to communicate with organizers during the thesis writing time presented an issue, because this time of the year is usually the busiest for them, as the bigger festivals are always held in summer. Regarding the interviews content, the organizers could not answer all the 39 questions asked of them. Most of the questions that were not answered were related to giving out exact data and numbers

about the success or failure of their practices. The reason behind it was not that they did not want to share this information with me, it was simply because they did not have the information. It only then became clear, that collecting such data and all the environmental sustainability practices is a serious task for event organizers as well.

Regarding the survey, the limitations were the accessibility of the respondents. The survey was shared on Facebook, in hope of being able to reach the most diverse audience to fill it out. To some point, it did happen, but it would have been great to reach more people from abroad.

4 Results and Discussion

After discussing the global environmental issues we face today in the Introduction chapter, – overpopulation, air pollution, global warming and climate change, deforestation and land-cover change, water pollution and the depletion of water resources, and biodiversity loss – and linking them to the impacts festivals have in the second chapter, this chapter will present the methods that organizers are applying at their events to prevent further damage and which help them in creating an environmentally sustainable event.

First, a comprehensive summary will be presented, in which the current global trends of environmentally sustainable practices will be specified. Then, with the help of the interviews I have conducted, two Hungarian festival's environmentally sustainable practices will be presented and compared to the global trends. Lastly, the findings of the questionnaire will be shared.

4.1 Global Environmental Sustainability Trends of Festivals

As presented in the second chapter, every festival has an impact on the environment, – be it in the form of litter and waste, air pollution, water consumption and pollution, noise pollution, vegetation loss or unsustainable procurement – but each of them has their own solutions for these problems. A comprehensive picture was formed with the assessment of 7 different festivals' practices, considering the TBL aspect – or the lack of those – related to each one of the before-mentioned impacts to explore global environmental sustainability trends. As mentioned in the Methodology chapter, in order to get an accurate picture, festivals from the most different parts of the world were chosen.

These festivals were Roskilde from Denmark, Pohoda from Slovakia, Glastonbury from the UK, Boom from Portugal, Lightning in a Bottle from the US, Fuji Rock from Japan and Splendour in the Grass from Australia.

Here are their practices to fight each of the following environmental challenges:

4.1.1 Litter and Waste

The best practice to manage waste is following the guidance of the 3R, – reduce, reuse, recycle – which was mentioned earlier in the Sustainable Event Management section. A festival can best contribute to the sustainable management of waste by preventing it. Some method to do that are the purchasing of items with the least amount of packaging or buying in bulk, preferring communication through a computer and not via paper letters, investing in reusable and washable cleaning wipes to clean the different facilities, using large display boards instead of small leaflets to share the program of the event, or allowing vendors to sell only biodegradable – if they have the possibility to take the biodegradable waste to a facility where it can be properly processed – or reusable cups, plates and cutlery instead of plastic. To prevent waste from being transported to landfill, the second method is to reuse. This is not only good for the environment, but it is also financially beneficial for the event, because the organizers will not have to invest the festival's money into new items. Donating items for other organizations or to charity, or not throwing away equipment that might be reused in consequent years, are all considered to be supporting putting less pressure on the environment. Another method to prevent waste from being transported to landfill is recycling. Similarly to reusing, recycling promotes the repeated use of items. It can be financially beneficial for the event in some cases, for example by using old merchandise t-shirts to make new ones. But collecting plastic bottles or steel cans are a good way as well to spare energy and new resources (Stopwaste.org, 2007).

Roskilde Festival follows the guidance of the 3R, as the festival views waste that is left at the premises of the event as resource (Roskilde Festival, n. d.).

At Roskilde, organizers put an emphasis on initiating dialogue with attendees about waste management. In collaboration with different high schools, the festival provides accommodation to students at the Clean Out Loud camp, where at the end of the festival it is required from them to leave the territory as it was when they arrived (Roskilde Festival, 2018). In partnership with Plastic Change, a Danish environmental organization, the festival assigned volunteers in 2018, to help collect trash that could be reused during the event with the help of a 're-use machine' (Plastic Change, n. d.; Roskilde Festival, 2018). The re-use machine turned the collected waste into items, like tent pegs, that attendees could use immediately (Roskilde Festival, 2018). Reuse at Boom Festival is supported by holding workshops, where waste, like aluminium cans or plastic bottles are turned into installations, sculptures and other artistic creations (Boom Festival, n. d.).

Lightning in a Bottle took the discussion between organizers and attendees even further about waste management. On their website, Lightning shared a list which explained attendees' responsibilities before, during and after the event. The very thorough list contained points like bringing three bags for collecting trash, but it also stated that every attendee is responsible for helping to clean up the dance floors after themselves and others at any point in the event (Bianca, 2019).

To support recycling, Roskilde created swap shops, where attendees could donate the broken parts of their camping equipment, which might be later used by someone else. At the swap shops, they also provided tools and parts to repair the broken camping items (Roskilde Festival, 2018).

During Roskilde, attendees were allowed and encouraged to participate in waste collection, and with the Waste ambassadors they were taught to separate waste correctly at the camping areas (Roskilde Festival, 2018). Similarly, Pohoda Festival established an increased number of collection and separation points, – 17 to be exact – where volunteers were helping

to sort the waste out, and where they included the not too usual practice of separating of toothbrushes (Pohoda Festival, n. d.). Glastonbury Festival has an on-site recycling centre, where the 2000 tonnes of waste, generated by the 200.000 attendees are being processed and hand sorted by volunteers. The waste is collected in three types of bins – general waste, food and compostables, bottles and cans – at the festival's territory. Then they send the biodegradable and food waste to the appropriate composting facilities and recycle the others. The inability to recycle all the produced waste in a short timeframe prompted the festival to build their own recycling centre, which helped them to reach the 50% recycle or reuse ratio in 2018 (Glastonbury Festival, 2019). Splendour in the Grass encourages the use of selective waste collection and recycling, too (Splendour in the Grass, n. d.). Boom Festival collects their waste in separate bins, and just like Glastonbury, they have food waste bins and they employ 150 volunteers who collect, separate, recover and treat waste. They then send the sorted waste to outside facilities to recycle (Boom Festival, n. d.). Volunteers, called the Green Team, are present at Lightning in a Bottle as well, where their job is similar to their equivalents at the other festivals. They help involve attendees in waste management practices and they also take part in sorting waste out into compost, landfill and recycling (Bianca, 2019). Just like the above-mentioned festivals, Fuji Rock employs volunteers who help attendees in properly selecting their trash into seven different bins (Fuji Rock Festival, n. d.; Demetriou, D., 2009).

In 2009, Fuji Rock collaborated with North Face to create recycled jackets for the staff from the previous year's trash (Demetriou, D., 2009).

Roskilde also expects their attendees to take their camping equipment home after the end of the event, this message is well-advertised throughout the festival. To support this, the festival partnered with a transport company, which helps attendees in sending their luggage to and from the event. In case something is left behind, eight million DKK is appointed to

remove and sort the remaining items. The remaining air mattresses are, for example sent to a company which makes mats from them in Germany (Roskilde Festival, 2018). Lightning in a Bottle has the same strict policy about leaving camping equipment at the festival, but they offer the opportunity to donate items in good condition, that are not needed anymore at the Waste Collection Stations. Equipment that is not in good condition can be taken there, but fees may apply (Bianca, 2019). Splendour in the Grass asks the same thing – attendees to take home whatever they brought to the event – on their website (Splendour in the Grass, n. d.).

To further reduce the amount of waste generated, organizers of Roskilde invested in reusable cups to prevent the excessive use of plastic bottles during the event (Roskilde Festival, 2019). Pohoda Festival, Glastonbury and Splendour in the Grass did the same thing, by using different sizes of reusable cups at their events (Pohoda Festival, n. d.; Marsh, S., 2019; Splendour in the Grass, n. d.).

Beside reusable cups, Pohoda also invested in compostable items – like corn starch or cellulose dishes and ecologically disposable food containers – and to properly compost the collected items, the festival created a composting area at the festival's territory (Pohoda Festival, 2018; Pohoda Festival, n. d.). Boom Festival uses biodegradable plates and cups and turns organic residue, supplemented with human waste, into compost. The collection of humanure happens with the help of chemical free compost toilets (Boom Festival, n. d.).

To prevent toxic materials leaching into the ground, Pohoda Festival prohibited smoking at certain areas of the festival and they also distributed ashtrays (Pohoda Festival, n. d.; Pohoda Festival, 2018). Fuji Rock applies the same practice (Fuji Rock Festival, n. d.).

To be transparent with the event's environmental impacts and achievements, on their website, Pohoda provided the information about the amount of waste generated daily by the festival's attendees, which is 0,92 kg per visitor. To compare, a Slovak citizen generates 0,91 kg of waste per day (Pohoda Festival, n. d.).

Following a more holistic point of view, Pohoda Festival involved the collection of old mobile phones in their agenda, therefore the festival established a phone collection point at their event (Pohoda Festival, 2018).

Lightning in a Bottle stresses the importance of preparing a sustainability report after the festival, which helps organizers understand the success of different waste management practices more. It also encourages attendees to take care of their environment more, because they can check how their campsite performed – meaning how much waste was left at the camp – on the Leave it Better Map (Bianca, 2019).

4.1.2 Air Pollution

Power and electricity are a necessity to run festivals, it usually costs one fifth of the five production costs and organizers have to accept to pay the price of fuel each year. However, due to generators often being used inefficiently, this price could be more that they normally should pay. Besides economic aspects, improper use of power generating equipment can contribute to environmental degradation, more precisely air pollution. For example, generators are using a baseline amount of fuel even when they are not running on full capacity. Therefore, it is important for organizers to choose the right size of generators to run the festival, because they might end up consuming more fuel to generate the same amount of power when deciding with a bigger generator. According to Powerful Thinking's guide (n. d.). "power can represent up to 70% of an event's 'core' carbon footprint". By considering the use of energy efficient methods, the same results can be accomplished, but with the use of less environmentally polluting emissions. To prevent emissions, investing in waste vegetable oil (WVO), or renewables like wind and solar are a good choice (Powerful Thinking, n. d.). Unfortunately, emissions can be connected indirectly to the festivals, meaning the different

polluting transportation methods of equipment and attendees. Here is how festivals try to prevent air pollution generated by their events:

Roskilde Festival proves its willingness to create a more environmentally sustainable event, by prioritizing the use of bicycles over cars inside the festival's territory. In 2009, they decided to use more electronic cars and trucks instead of the polluting petrol or diesel cars. Attendees are encouraged to arrive by bike, guarded parking spots and repair tools are provided for them (Miljohandboken, n. d.). Regarding the problem of air pollution, Pohoda Festival shared only one practice on how to prevent emissions, which is using special express trains to get to the festival (Pohoda Festival, 2018). Arriving to Glastonbury by public transport is encouraged by giving out discounts and prizes, and just like at Roskilde, cyclists are offered some benefits, like being able to use the designated cyclists' campsite (Gray, L., 2013). To get attendees to choose public transport and reduce CO_2 emissions, Lightning in a Bottle offers the options of sharing a car with a friend, carpooling or using the festival's own bus system (Bianca, 2019).

Boom Festival helps to further reduce CO_2 emissions, by using only manual waste separation (Boom Festival, n. d.).

In 2008, Boom made an investment in waste vegetable oil, to power the generators and vehicles they had. To strengthen the relationship with the local community, the festival collected the oil from the surrounding towns (Powerful Thinking, n. d.). By using biofuel, Glastonbury prevented the generation of 150 tonnes of carbon emissions in 2015 (Glastonbury Festival, n. d.). In hope of reaching similar results, Fuji Rock started to consider the use of oil waste as bio fuel, too (Fuji Rock Festival, n. d.). To contribute to carbon neutrality, Fuji Rock introduced stages that are run by biodiesel in 2009 (Demetriou, D., 2009).

Further emissions will be prevented by building an anaerobic digester that will be used to produce power for Glastonbury's backstages and offices throughout the year (Glastonbury Festival, n. d.). The same system runs at Lightning in a Bottle (Mmalivuk, 2017).

With the measure of only allowing smoking at certain areas of the festival, Pohoda contributes to the reduction of environmentally harmful chemicals (Pohoda Festival, n. d.). Fuji Rock applies the same practice: smoking is only allowed at the designated areas, but in this case, only between the given timeframe (Fuji Rock Festival, n. d.).

4.1.3 Energy Consumption

Because air pollution and energy consumption are often related, similar methods to what was described in the previous section will be presented.

Roskilde Festival is nudging the development of the energy sector by investing in sustainable products. Compared to previous years, switching to LED lighting at the Sustainable Stage and other facilities, saved 40% of energy (Miljohandboken, n. d.). Surprisingly, Boom Festival reached the exact same results, with the exact same measures – switching to LED – in two years (Powerful Thinking, n. d.). Glastonbury and Lightning in a Bottle uses LED lights at its event, too (Glastonbury Festival, n. d.; Green Event Report, n. d.).

Further energy savings at Roskilde, are connected to the use of automatic timers, which turn off the festival's lighting during the day (Miljohandboken, n. d.).

As written on Roskilde's website, the festival's main source of electric power "is the local power grid, but since this does not have the capacity to power the whole festival a fair share of electric power is also produced on site with generators and solar panels" (Roskilde Festival, n. d.). Solar lighting and a mobile solar power plant are used by Pohoda Festival, as well (Pohoda Festival, n. d.). Glastonbury installed solar panels in 2010 and runs its stages

exclusively with it and wind power (Glastonbury Festival, n. d.). Similarly, Boom Festival uses energy efficient and renewable technologies, such as solar power to run the festival. Boom is in a lucky position regarding their ability to use renewables, because between the time of the festivals, a dozen local resident lives on the event's territory, thus continuously generating an energy surplus for the next event (Powerful Thinking, n. d.). Compared to the previously mentioned uses of renewable energies, Lightning in a Bottle only uses renewables like solar lights or hybrid solar and wind generators to power small things, like phones (Green Event Report, n. d.; Mmalivuk, 2017).

Pohoda provides charging possibility for the people who come by electric vehicles (Pohoda Festival, n. d.).

In order to come up with the most energy efficient practices, Boom Festival frequently assesses the event's power demands before and during the festival, and it also applies energy audits. Due to the success of their energy management practices, the festival was able to reduce their energy consumption by 40%, in the short timeframe of two years (Powerful Thinking, n. d.).

To heat the festival's offices, Glastonbury invested in a ground source heat pump (Glastonbury Festival, n. d.).

In their Energy Policy, taking a more holistic approach, Glastonbury Festival nudges its attendees to switch to less energy consuming and polluting products at their homes, like LED lightbulbs or renewable energy (Glastonbury Festival, n. d.).

Regarding Fuji Rock's practices to prevent excessive energy consumption, no English resources were found on the Internet.

4.1.4 Water Consumption and Pollution

Just like power and electricity, water use is a necessary part of festivals, too. Using toilets, wash basins and showers are all contributing to the water consumption of festivals. Beside wasting clean water, festivals can affect the environment in various negative ways, for example by polluting waterways and groundwater. The organizers have to be prepared to apply management measures to prevent excessive water use and the contamination of waterways. Some of the practices include the purchasing of harmless cleaning products, automated taps, reusable cups, compost toilets or cleaning systems to treat waste water and reuse it later (A Greener Festival, n. d.).

Roskilde Festival set the goal of reducing the amount of water used during the festival by 3% every year until 2019. In the meantime, intelligent water meters are used, to help them investigate how much water is used, and for which exact activities. This knowledge allows them to prepare and eventually introduce new methods to further decrease the festival's water usage. As of now, no concrete measures were described on the Internet (Roskilde Festival, n. d.).

To save water, Pohoda Festival flushes its vacuum toilets with utility water from the festival's wells. It also has chemical toilets, where only bio-concentrates are used (Pohoda Festival, n. d.).

As Boom Festival's website (n. d.) mentions - compared to Pohoda's chemical toilets - using compost toilets does not require the 6-15 litres of water that a normal toilet usually needs, and it also does not require any kind of chemicals either that would potentially risk the quality of water and aquatic life. According to them, compost toilets are not only sustainable, but they are "ultra-hygienic" as well (Boom Festival, n. d.). Splendour in the Grass uses waterless compost toilets at their premises, to "manage water cycles (water and waste water) sustainably (Splendour in the Grass, n. d.). Glastonbury has five different types of toilets,

from which the most sustainable are the compost toilets, as no water and no chemicals are needed (Glastonbury Festival, n. d.).

Boom provides the event's agricultural area with biologically treated irrigation water, to water the festival's own gardens (Powerful Thinking, n. d.).

To prevent plastic contamination in the waterways, Pohoda Festival, Glastonbury, Lightning in a Bottle and Splendour in the Grass encourages attendees to use their own reusable bottles and fill them with clean water for free (Pohoda Festival, n. d.; Glastonbury Festival, n. d.; Green Event Report, n. d.; Splendour in the Grass, n. d.).

Due to its location, Glastonbury is able to transport and process its sewage quickly at the processing plants, which reduces the risk of spilling (Glastonbury Festival, n. d.).

There was no available information in English about the water management practices of Fuji Rock Festival.

4.1.5 Noise Pollution

Studies are usually more worried about noise management issues concerning human health, therefore not many studies were available about festival's noise management practices that were prepared in order to protect wildlife. However, a survey by A Greener Festival showed that even though organizers do not consider the environmental impacts of noise, attendees in contrast did. "In the UK, 80 per cent considered noise at festivals had a negative environmental impact" (Environmental Technology, 2012). The lack of will to apply noise management practices to alleviate the impacts of loud music or other noise is clearly presented in the following.

There was no information found regarding Roskilde Festival's noise pollution management practices that were made to protect wildlife. One website mentioned that Roskilde applies noise limits, but it did not mention the connection between the decision and

the wildlife (10eazy, n. d.). Similarly to Roskilde, Glastonbury only has noise regulations related to humans (Glastonbury Festival, n. d.).

Pohoda, Boom, Lightning in a Bottle and Fuji Rock Festival did not have any information on the topic either.

The only festival that made comments about environment related noise pollution is Splendour in the Grass. After preparing a report in 2015, the organizers decided to consider the loud noise's impact on the wildlife. Further information about the specific measures were not available (Mack, E., 2015).

4.1.6 Vegetation Loss

Because outdoor events, especially festivals put a lot of pressure on the land, usually in a short amount of time, practices like preparing a trackway for cars or separating more sensitive areas are important (A Greener Festival, n. d.). In the following, each festival's vegetation conserving practices are presented.

Roskilde Festival hires local associations to restore the festival's vegetation after the event is over (Miljohandboken, n. d.).

Although not strictly related to the prevention methods of vegetation loss at the festival's site, Boom Festival designated a permaculture garden at its territory. The place is used to demonstrate how to successfully cultivate a permaculture garden where plants and animals leave in a peaceful union with each other without the use of any pesticides and other harmful chemicals. The garden provides herbs, fruits and vegetables to a limited number of attendees during the event (Boom Festival, n. d.). The initiative to build a small garden at Pohoda Festival was born in 2018, when organizers invited their guests to create a temporary flower garden during the event. Giving instructions through the festival's website helped attendees to participate in planting when the time had come (Pohoda Festival, 2018).

Letting domestic animals roam the fields of Boom result in better quality soil due to fertilization, and therefore, it contributes to the regeneration of forests (Powerful Thinking, n. d.).

Another method to regenerate forests is to urge attendees to plant trees manually at the event. This is exactly what Glastonbury did in 2004, although their motive for doing that was to ease the pollutant emissions caused by generators (Barkham, P., 2004). Four years ago, Boom Festival attendees did the same, when planting thousands of trees, but in their case the reason was to help increase biodiversity (Powerful Thinking, n. d.). In 2019, Splendour in the Grass attendees can enjoy the feeling of getting dirt on their hands by planting trees at the festival's site (Splendour in the Grass, n. d.).

Fuji Rock's method to prevent vegetation trampling is to build a boardwalk, which they rebuild and fix each year (Fuji Rock Festival, n. d.).

Regarding Lightning in a Bottle, no methods were found on the Internet about how they contribute to the prevention of vegetation loss.

4.1.7 Procurement

As mentioned earlier, festivals are resource-led events, they rely on many different kinds of materials, equipment, food and drinks. If a festival wants to achieve a truly environmentally sustainable event, it has to consider the fact that where they invest their money in actually matters. Because the impact of unsustainable or sustainable procurement is interconnected with all the environmental factors and impacts, and they were already presented in the previous sections, only a couple of examples will be presented here.

As the Practical Guide: Procurement by Julie's Bicycle (2014) states, "everything you buy leaves a trail of environmental impacts – from the materials used and their extraction, to the energy and water used in manufacture, transport, and shop fronts, through the product's

use time and ultimately disposal". Therefore, when buying something, every member of society can decide what they want to put their money into, and what cause do they want to support with it (Julie's Bicycle, 2014).

According to the guide, every organization have the chance – no matter their size – to influence the supply chain and appoint a sustainable way, by giving their money to support sustainable services and products. The environmental impacts that festivals have are usually connected to the use of polluting materials, and one material can pollute many aspects of the environment, meaning that a plastic bottle can damage the animals on the ground just as much as they can damage marine life or the quality of groundwater. Festivals already have inherent tasks that they cannot avoid, like ensuring toilets or selling food, why not make them as sustainable as possible? Why not use biodegradable chemicals that are not harmful to the waters, to clean the toilets or why not sell as little meat as possible to reduce the agricultural land use of the Earth (Julie's Bicycle, 2014)?

Nowadays with satisfactory planning, investing in sustainable causes is not as time consuming as it was before, due to the availability of countless environmentally friendly services and products. By allocating the organization's money to invest in such things, they contribute to the further development of the sustainable market (Julie's Bicycle, 2014).

To ease the unavoidable impacts like air pollution, water pollution, noise pollution, vegetation loss, energy consumption and littering, organizers have the possibility to carry out the procurement of necessary products and services responsibly, before the event starts.

In 2017, Roskilde Festival started to invest their money into renting or buying eco-labelled products, which resulted in 11 out of the 66 product groups owning an eco-label (Roskilde Festival, n. d.).

From 2019, the festival started to invest in new reusable cups, which means that a lot of plastic waste is being spared. According to the festival's website, before sending the cups

for recycling, they can be used 25 times. The reasons behind deciding with reusable and not recycled or biodegradable cups were health safety issues, and regarding the latter, the fact that there are still no available recycling facilities for biodegradable items (Roskilde Festival, 2019).

Pohoda Festival pays attention to what materials are their merchandises made of, thus they only sell clothing that has the Global Organic Textile Standard (GOTS) certificate and are made out of organic cotton (Pohoda Festival, n. d.).

On their website, Boom Festival proudly presents their use of sustainable and organic materials – like wood, plant roots or stone – to build the festival. The reason behind it is that organizers did not want to contribute more to the manufacturing industries' CO_2 emissions and intensive energy consumption (Boom Festival, n. d.).

4.2 Sustainability Practices of Hungarian Festivals

After compiling and specifying the various environmental sustainability trends of festivals from different parts of the world, this section will present and examine how one of the biggest Hungarian festival is performing and progressing in this regard. The chapter will also present an alternative way of organizing a completely environmentally sustainable festival here, in Hungary.

4.2.1 Sziget Festival

The first festival presented, is none other than the biggest festival of Hungary, Sziget Festival. The idea of organizing the festival conceived in 1993, and at the same year it became reality. 43.000 people visited the festival in the first year, since then it grew so big that last year, in 2018, 565.000 attendees were stomping the grounds of Sziget (Cultura, 2017.; Herczeg, M., 2018). In 1993, "only" 200 concerts, 80 film and 40 theatre performances were

held, these days the festival have this many program in only one day (Cultura, 2017). So how does such a huge festival, like Sziget contribute to environmental sustainability? To find answers, the festival's website and related articles were examined, and an interview was carried out with Sziget's Sustainability Manager, Ákos Dominus.

From the beginning, Sziget had some environmental initiatives during their events, but without being consciously committed. The management considered applying sustainability practices from 2002, but it was only embodied in the form of waste collection (Stambler, M., n.d.). Waste was collected separately in coloured recycling bins, but there was only a very nominal rate of recycling at the time. Some measures were taken to avoid heavy car traffic, but it was not considered as a green initiative in the beginning. The festival's first conscious commitment to environmental sustainability was their "Green Program" and recycling to be more precise. Until the financial crisis, the festival had external funding to sponsor the recycling program. After the crisis, the program was cancelled due to financial reasons, and there were not enough resources to start other programs. However, four years ago the festival's management decided to allocate money to develop a wider range of environmental protection programs. They realized the importance of the application of environmental sustainability measures (Dominus, Á., 2019). The motivations behind change were that:

1. The festival was aware about their impact on the environment, and their responsibility to minimize the effects.
2. The festival was aware how big of an influence they are on attendee's behaviour and they acknowledged their responsibility in doing so in a positive manner.
3. The festival was aware that there is a rising interest in green initiatives in all over the world, therefore not applying these can threaten their competitiveness in the international festival scene, as these initiatives become more and more like requirements (Dominus, Á. 2019).

Since then, Sziget is developing and applying more and more environmental sustainability programs at their events.

Waste management is still considered to be the most important measure towards reaching environmental sustainability, therefore the festival comes up with new ideas each year on how to cut back waste generation. From confetti, through glitter, food waste, plastic waste to the attendees camping gear, the organizers have to be prepared to collect and separate everything during and after the event. In the previous years, the festival managed to recycle 35-40% of their waste by putting recycling bins throughout Sziget's territory. Their goal is to reach 50% in the upcoming years. The festival has many recycling centres, where volunteers are helping to collect and separate waste accordingly. Waste is collected according to these categories: food waste and cooking oil, - which are considered as hazardous waste - PET, aluminium cans, cardboard and glass. After collection and separation, PET, aluminium, cardboard and glass are transported to the treatment plant where residential is treated. Like at Roskilde and Lightning in a Bottle, Sziget tries to involve attendees in their sustainability programs. Living in the EcoCamping they can learn how to properly select their waste. Sziget also has workshops and awareness raising lectures, for example at this year, in 2019, the festival invited Dr. Jane Goodall to speak at the Climate Special Party, which is held at the main stage and has different short programs each day. Under the Waste Exchanging Program, attendees are able to exchange their collected trash to gifts (Dominus, Á., 2019). In 2018, the festival introduced the "Don't suck!" campaign, in which they encouraged attendees to refuse straws during the event. Following this, they managed to cut back on use by 50%, giving out only 600.000 straws (Sziget Festival, n. d.; Stambler, M., n. d.). Under the Green Sziget Vendor Program, plastic bags, plates or cutlery is prohibited to be sold by food vendors during the event, only their biodegradable counterparts are allowed (Stambler, M., n. d.). However, despite switching to biodegredables, the festival's waste management was still not

fully environmentally friendly, because the event was unable to take these items to a processing plant, due to it not existing in Hungary. To improve their results, the festival invested in reusable cups and sells reusable water bottles at their merchandise store. Even though the number of attendees is growing each year - thus consumption as well - the festival still managed to cut back on waste due to these programs. Around 1400 tonnes of waste was collected, of which half went to recycling (Dominus, Á., 2019). Similarly to Roskilde, Lightning in a Bottle and Splendour in the Grass, Sziget encourages its attendees to take home or donate their camping equipment (Stambler, M., n. d.). To be able to process more waste and solve the issue with the biodegradable items, their brand-new program – the Collective Composting Lab – in 2019 involves the design of a compost area, where food waste will be composted, having to send even less waste to processing. Their future plans involve the complete eradication of plastic bottles, but it will only be manageable when their sponsor agrees to supply them with the premix and postmix machines needed. For the time being, the festival management does not see this implemented in the near future. Sziget also wants to organize cardboard collection more effectively, because currently they are only collected at the areas where the most is generated. Involving areas, where smaller amounts are generated and used would be important. From 2020, they want to end the "campsite chaos" as Dominus called it, meaning that the festival wants to move the camps to designated areas. This way waste can be controlled more effectively (Dominus, Á., 2019).

To prevent the release of dust and polluting of the air, Sziget Festival uses 10.000 ^{m2} of covers at the event's territory (Stambler, M., n. d.). Because 35-40% of attendees are arriving by plane, and this number grows each year, big efforts are made to get people to use other transportation methods. Just like the other festivals mentioned previously, Sziget is encourages its attendees to arrive by public transport or use car sharing, and they even offer boats and buses to the festival. In collaboration with the city, they managed to the local train

line to operate for a longer period of time during the night. The festival provides bike parking spots, where they offer tools to fix the bikes and they even offer a bike rental service (Dominus, Á., 2019).

The festival also applies measures to be as energy efficient as possible. They switched almost completely to LED, just like Roskilde, Bloom, Glastonbury and Lightning in a Bottle did. From 2018, they introduced separate meters for vendors whose power consumption exceeded a given amount. Exceeding this amount resulted in financial compensation from the part of the vendors to the festival. Similarly to the same international festivals mentioned before, Sziget uses renewable energy, solar energy to be exact, to power their banners, but according to Dominus (2019), using renewable energy in a week-long event is simply not beneficial for the festival and does not fully satisfy the power needs of such a huge event (Dominus, Á., 2019).

Regarding water consumption and pollution, Sziget came up with a program called, the Cleaner Riverbanks Program. As the festival is located on an island, litter might go into the water, thus by having volunteers to check the shores, they are able to prevent water contamination. By cutting back on plastic waste, and introducing the free Freshwater Points, the festival contributes to less plastic reaching the waterways. With the Green Shower Initiative, the festival tries to get attendees to shower for a shorter amount of time than they normally would. In one special year, the city council let the festival to extract water from the Danube, allowing the festival to spare 2000 cubic metres of clean water, but unfortunately, they did not allow the festival to continue on with this in consequent years (Dominus, Á., 2019). Unlike other international festivals, Sziget does not have compost toilets, but like Pohoda, they are trying out vacuum toilets, with which they are able to save a lot of water (Stambler, M., n. d.).

Regarding noise, the festival set limits to prevent noise pollution during the event. Vendors are not allowed to play music after 18:00. There are machines to measure and control sound emissions (Dominus, Á., 2019).

As mentioned here earlier when talking about their air pollution prevention methods, the festival uses special covers to protect the ground. It also has a recultivation period after the festival ends (Stambler, M., n. d.).

Regarding procurement, Sziget tries to invest their money into sustainable items or projects. For their merchandise t-shirts, the festival decided to buy organic textiles (Dominus, Á.).

4.2.2 Gyüttment Festival

Although the thesis thus far was exploring the international festival scene and the biggest Hungarian festival's environmental sustainability programs compared to it, I wanted to offer an alternative approach to sustainable event organization. Knowing that most of the festivals, both the international and the Hungarian one are based on sponsors, it is hard to imagine that they will resort to practices that will be presented in the following, but considering that the use of compost toilets were unimaginable for many years, who knows? They might consider following the practices of this small Hungarian festival, called Gyüttment. The information presented in the following was compiled through an interview, with the help of one of the organizers, Dorottya Harazin and through the festival's website.

Gyüttment Festival is a small Hungarian festival, with around 5000 attendees throughout the whole event. It is held at different places each year. The festival was created to raise environmental awareness and give help in any way to people who are considering moving to the countryside to live a more sustainable life. During the event, many workshops, lectures and music performances are held, and vendors are selling their sustainable products.

All five of their stages promote the environmentally sustainable lifestyle and all of their programs reflects the same.

As the festival promotes itself as a zero waste event from 2017, no waste is allowed at the premises of the festival. To emphasize this, no bins are distributed at the festival, attendees are strictly bound to take any trash they might brought with themselves, to take home. For that, they give out one biodegradable trash bag. Waste like women hygienic products should be collected and taken home in those. Attendees are encouraged to bring the least amount of waste with them. Like Pohoda Festival, ashtrays are distributed at Gyüttment, too. The festival does not sell or give out any type of waste, therefore they do not have any plastic cups, cutlery or other items. They ask attendees to bring plates, cups and other needed items with them, that are made of reusable material. In case someone does not want to do that, they can rent their appliances. All the food and drinks that are sold during the event comes in bulk or without unrecyclable packaging. To be able to recycle the waste that cannot be prevented, like human waste, the festival has compost toilets. Their content is always composted after the festival and similarly, food waste is composted as well (Harazin, D., 2019). Because pets are allowed, the festival distributes paper towels to pick up their excrement (Gyüttment Fesztivál, n. d.).

To limit air pollution, the festival encourages its attendees to arrive by public transport. They also consider their emissions during procurement, they only buy seasonal food from locals who are no more than 20-50 km away from the location (Harazin, D., 2019).

The phone charging happens by solar panels, but the festival does not use any generators or other energy consuming equipment, therefore they do not have any practices to reduce energy consumption and for the same reason, they do not have any noise pollution prevention methods (Harazin, D., 2019).

Organizers are asking attendees to bring biodegradable cleaning products with them, to prevent water pollution. This is especially needed, because they have to wash their own kitchen appliances after using them. They do not have hot water for showering, it helps them reducing water consumption. The festival has compost toilets (Harazin, D., 2019).

To prevent vegetation loss, the organizers only allow 1000 attendees in one day to access the festival's territory and they hold the festival at different places each year for the same reason (Harazin, D., 2019).

To help attendees get information about anything, Gyüttment employs volunteers, too, just like every previously mentioned festival did (Harazin, D., 2019).

Gyüttment Festival's environmental sustainability practices reflects best in their zero waste policy.

4.3 Attendees' Opinion About the Environmental Sustainability Practices of Festivals

One of the important questions of the research was to find out how attendees are thinking about the importance of the topic. This is a particularly interesting question in this world today, where climate change deniers and people who suffer from anxiety due to the fact of climate change, exist together.

Data collection was carried out by a questionnaire, which was shared online in electronic form. The feedback given in the survey might be of interest to the festival organizers from different points of view (funding, return, expectations of attendees, successful practices etc.). Since the audience of the festivals are typically from the younger generations, festivals that have environmental sustainability practices at their events, can positively influence visitors, and thus, the environment.

The main 21 questions were related to the topics previously presented, and it also contained questions that were helping in justifying, that programs and practices created in the name of environmental sustainability, were of high importance to attendees, too.

The survey was filled out by 152 respondents. The age of the respondents varies greatly. Most of the responders were aged 18-24 (42,1%), but the 25-34 age group was high, too with 25%. This data is a good representation of the average age of those attending festivals. I would like to note, that the next active group was the age group of 45-54 with 12,55%, ahead of the age group of 35-44 with 9,9% and the age group of under 18 (3,9%). Of the 55-64 age group, 5,3% filled the questionnaire out, but there were respondents from the 65+ age group with 1,3%.

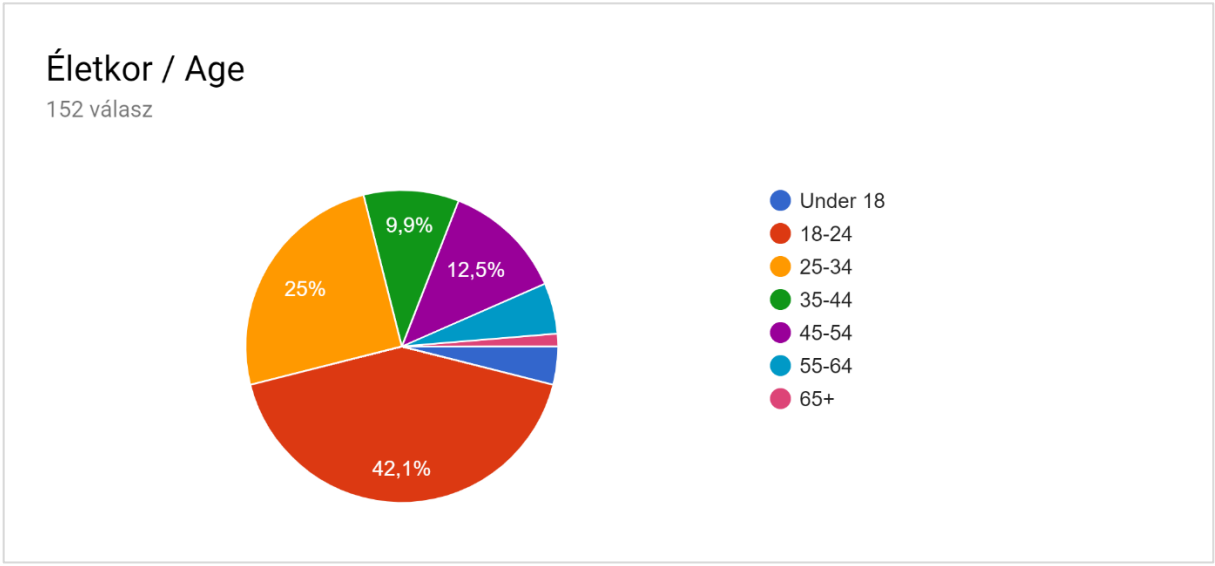

Figure 2. Age of respondents (Survey, 2019).

77,6% (118 people) of the respondents were woman, 21,7% (33 people) were man, and 0,7% (1 person) identified as Other. The willingness to participate and the interest about the topic was therefore bigger from the part of woman.

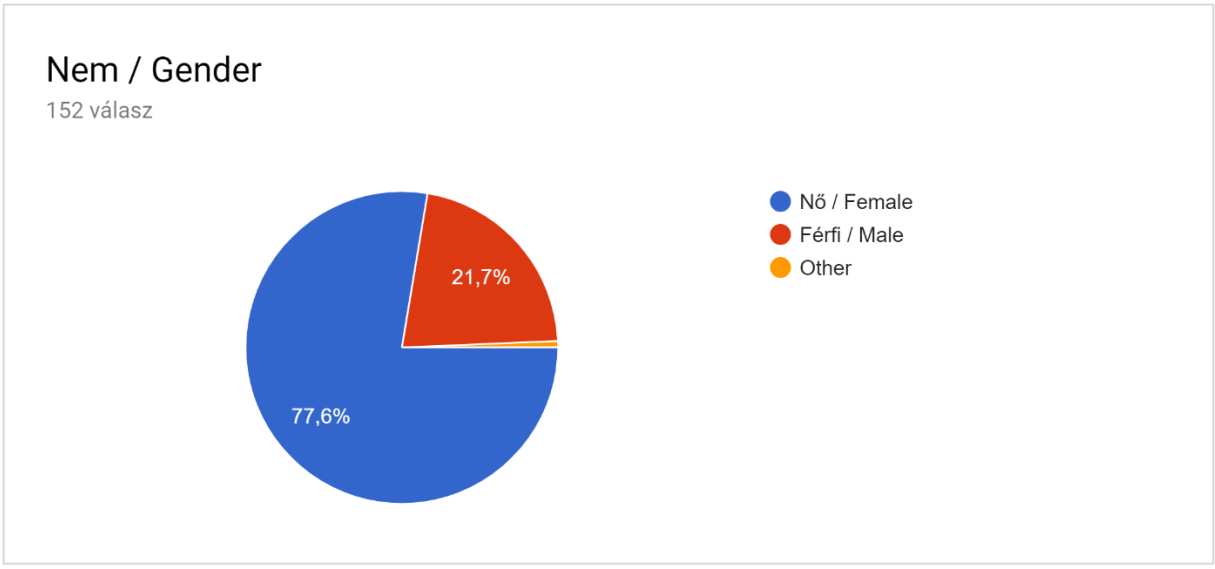

Figure 3. Gender of respondents (Survey, 2019).

I tried to obtain sample from international respondents, this endeavour resulted in a sample of 9% (14 people) with varying nationalities. 91% (138 people) of the respondents were Hungarian.

Those with higher educational qualifications were overrepresented in the distribution of qualifications. Most of the respondents, 35% (53 people) were graduates, and two people could be listed with a higher education diploma from the old system. 33% (50 people) had a master's degree, 25% (38 people) had high school diploma and 5% (7 people) had primary education. One person had technician qualification and one person did not complete any degree.

The first three questions were introductory, which gave me a general idea of how many times, what kind and for what reasons did participants chose to attend festivals. The majority of respondents, 81,6% (124 people) participates at 1-3 festivals per year, 13,2% (20 people) at 3-5 festivals, 3,9% (6 people) at 5-7 festivals, 1,3% (2 people) at 7-9 festivals. Nobody goes to more festivals than that.

Figure 4. Number of festivals attended in a year (Survey, 2019)

The data shows that participation at festivals became accepted and turned into a recreational activity. There were no respondents who would not have attended a festival. The popularity of these events requires sustainability efforts from the part of the organizers, in my opinion.

Of the many types of different festivals, the most popular are music festivals, with 92,4%, followed by gastro festivals (50%). The next one is cultural (40,1%), theatre (21,7%), film (19,7%), scientific (14,5%), literary (11,8%) and other types of festivals (e.g. beer) with 0,7%. Different types of festivals come with different types of impacts, but it is obvious that the most popular types of festivals are likely to have their impacts multiply, because of the number of their attendants.

The selection of festivals is dominated by a variety of aspects, but the most important aspect were performers (86,8%). Another important aspect was the community experience, to be with friends (71,1%). With this in mind, I think it would be worth considering the organization of environmental programs. The diversity of programs are important for 58,6%, which is an expectation from attendees and might be a burden for organizers, because it is not

a question that the more complex the program is, the more important the environmental sustainability practices are. Environmental awareness is in the fourth place, with 4,6% of respondents considering it important when choosing a festival. I think this is a good representation of the current situation, it means that we still have things to do. Among the additional individual answers, it is worth mentioning that some highlighted the importance of cleanliness, child-friendly programs and networking.

The next question was about how important do attendees consider the protection of the environment. It can be clearly seen, that according to the answers, it is a very sensitive area. 48,7% rated it as extremely important, 45,4% as very important and 5,9% as somewhat important. No one chose not so important or not at all important.

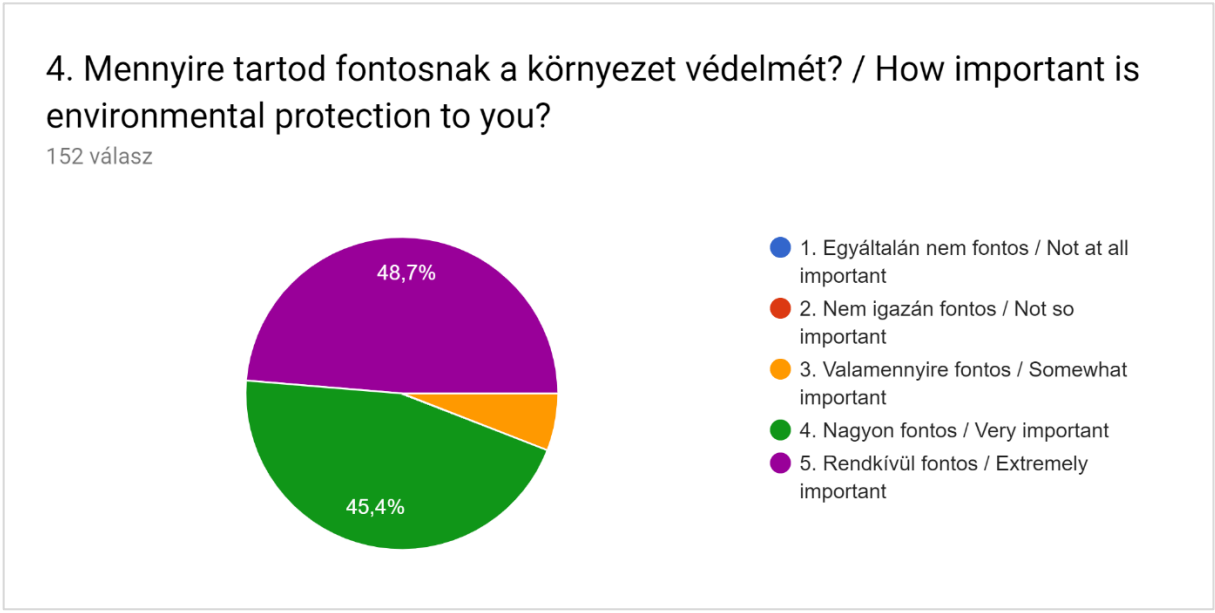

Figure 5. Importance of environmental protection (Survey, 2019).

In the next question, their commitment to the environment was asked. Here, it is seen that although many people considered environmental protection extremely important and very important, not as many are actually committed to it in practice. Only 8,6% consider themselves as extremely committed, 46,7% as very committed, 42,1% as somewhat

committed, and in contrast to the previous question, 2% said that they were not so committed, and 0,7% as not at all committed.

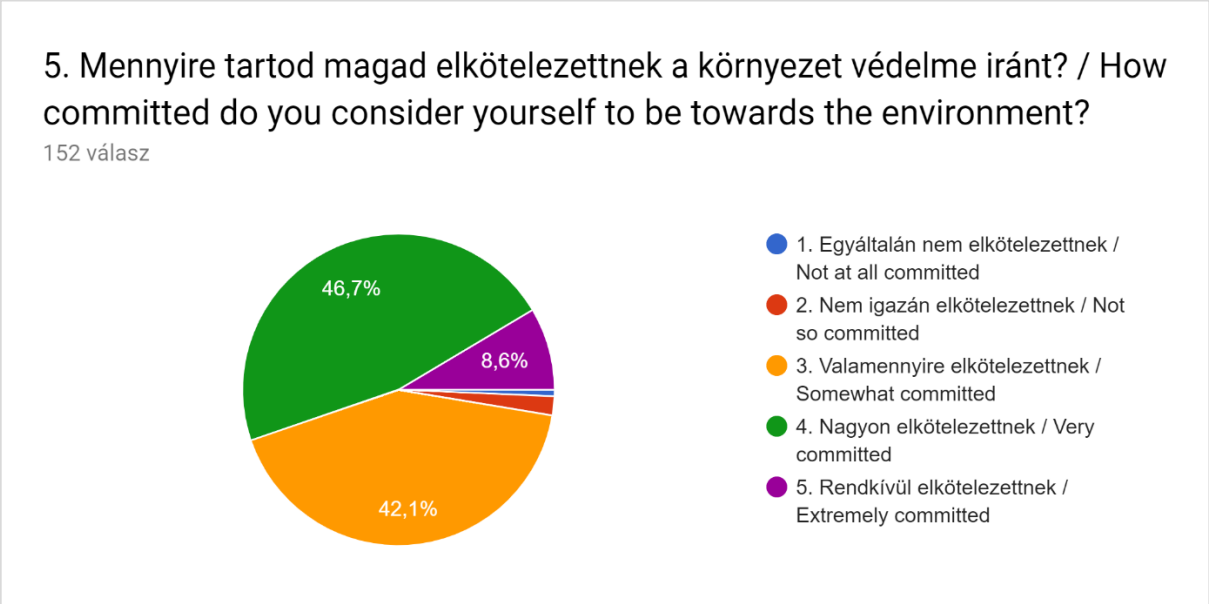

Figure 6. Commitment towards the environment (Survey, 2019).

In the next question, the respondents were asked about their daily environmentally friendly practices. It became visible that some kind of eco-friendly practice is a part of their everyday lives, which is definitely remarkable. These actions are important, as most of them do not require much effort, yet we can do good things for the environment. If there are more reinforcements that tells them the importance of these practices, even at festivals, then their range of daily practices of sustainability would broaden.

Most people used the option of selective waste collection (88,2%), reducing energy consumption (69,15%), avoid the excessive use of water (68,4%) and recycling (62,5%). The two latter, I think were always important to people. Avoiding buying plastic bottles is a new trend (48%), news of the recent year played a huge role in that in my opinion. There are more people who support the buying of second-hand clothing as well (42,85%). 15,1% chose the use of the zero waste practice, which came as a surprise to me, it shows real dedication. There

were other responses given, but only 1-1 people wrote them, an interesting one is for example composting or the vegan lifestyle.

In the seventh question, I was examining the concept of sustainability. I was interested about what people meant under it. 85 answers were received, which is a good number, in my opinion. Many have explained the concept itself, for example that sustainability is the attention toward the environment, or a lifestyle with which we do not ruin the environment. More people highlighted the practical aspect of it: the avoidable and unnecessary overuse, less waste, selective waste collection or protecting the wildlife. Other answers contained things like recycling, using renewable resources, avoiding plastics, organic farming, local/ small-scale purchases, chemical free lifestyle, energy saving, use of natural cosmetics, avoiding fast fashion and relieving the Earth from other polluting burdens. It was interesting to see the viewpoints changing in some of the responses, many respondents showed signs of awareness: "Adjusting my needs to the environmentally friendly solutions". Many people were considering the future when answering this question, for them, sustainability meant future generations living in the same environment that they now live in. Focusing on the future occurred in countless responses, often referred to with short sentences like: "It's a must in 2019" or longer sentences like "Using only our fair share of resources; not consuming in excess of what is needed for a comfortable, healthy and fulfilling lifestyle; leaving the environment in at least as good a condition as we inherited it, if not better, so that future generations can enjoy the same privilege as us". Many felt that sustainability means not only individual, but collective work, too. "Reduce my footprint, spread the word". "For me, it is more of like a teamwork". "It is good to help ourselves and others". There were people who were thinking realistically: "There is no truly sustainable life, but it is everyone's duty to minimize the burden on the environment, in order to preserve the human life form on Earth".

It is clear from the answers that people are becoming more aware, sustainability and environmental protection touches people on an emotional level, as well.

From the eights question, the focus was on festivals and their sustainability aspects. Firstly, I have asked people, how important is environmental sustainability to them when choosing an event. 51,3% of respondents thought it was somewhat important, 22,4% not so important, 16,4% very important, 6,6% not at all important and 3,3% extremely important. These answers seem realistic to me, not many people consider the environmental aspects when choosing a festival. Although, it seems to me that this will more and more important as time passes by.

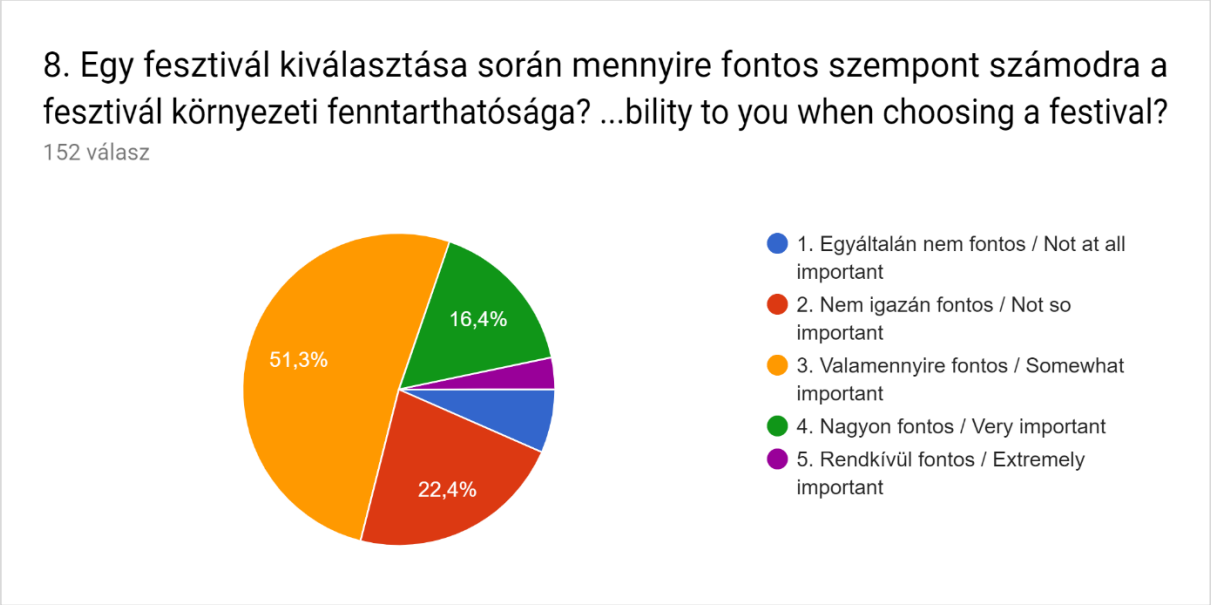

Figure 7. Importance of environmental sustainability when choosing a festival (Survey, 2019).

In the next question, I was interested in finding out whether people have chosen festivals solely because of the event's environmental friendliness. The answer was mostly no with 92,1%, only 7,9% thought it was important for them. This number probably reflects the

people, who answered previously that they are extremely committed to environmental protection.

67,8% of respondents were not aware of the environmental sustainability initiatives of the events they visited, but 32,2% were aware. This data seems realistic, too, as festivals are trying harder every year to raise awareness and spread their sustainability programs.

The 11th question was open, and it was connected to the previous one. In case somebody answered with yes, I was curious about some examples. For the 49 yes answers, 43 explanation arrived. Most people mentioned the reusable cups, selective waste collection, the proper number of bins, ashtrays, paper or edible plates or wooden cutlery. As Dominus mentioned me during the Sziget interview, festivals' most important and well-marked environmental sustainability practices are connected to waste management. These answers are justifying this. Besides the previously mentioned, others wrote about compost bins, avoiding paper, encouraging bike use or the restoring of the vegetation. A lot of the previously examined festivals were applying these practices. Someone highlighted Sziget Festival's EcoCamp, the eco-friendly workshops which are supposed to bring attention to environmental issues. Many people considered programs, like Roskilde's reusing program or Sziget's trash exchange program a good initiative, and also the ability that they are allowed to participate in such programs. Volunteering and volunteers were mentioned multiple times. Some people criticised the tents and other disposable items left behind at the festivals, therefore it strengthens the endeavours of Sziget, Roskilde or Lightning in a Bottle. Most of the respondents, regardless of their nationalities were aware of the environmental sustainability programs of the festivals they attended.

From the environmental sustainability practices, 125 people considered recycling bins at the festival's territory as an extremely attractive initiative. Following this, 124 people considered the restoration of the festival's territory as extremely attractive, then 123 the

collection of selective waste. The use of reusable cups 103, ashtray 102, use of renewable energy 98, prohibited use of plastics 96, use of biodegradable cups 95, use of public transport and bikes 85, use of biodegradable detergents 82, prohibition of plastic bottles 66, merchandise made from recycled materials 54, use of compost toilet 45, use of less meat selling kiosks 33 all got the rating of being very attractive. This shows, that the already widely used environmentally practices are needed, but people consider measures with bigger investments, like the restoring of the territory important as well.

To the question of what they would be willing to do for environmental protection, the following answers have arrived. 148 people would collect waste, 142 would bring reusable bottles that could be filled up at free water points, 143 would use biodegradable and 138 reusable cups. The same amount would use the distributes ashtrays. 131 would ride a bike or use public transport, but only 111 would use compost toilets. Even less, 106 would buy merchandise made from recycled material. 88 would volunteer in awareness raising or waste collecting programs, and the least amount of people, 68 would prefer to buy vegetarian or vegan food instead of meat food. It is apparent, that most of the favoured practices are already existing at festivals.

In contrast to their willingness in doing the previously mentioned environmental sustainability programs, 55,3% of people did not participate in any kind of environmental protection related activity during the festivals.

Even better results were found when their participation rates were asked regarding in awareness raising workshops or programs. 89,5% of respondents did not participate in any kind of these programs.

To the next open question, 15 answer arrived, because of the bad results of the previous question. The people who responded to this question said, that they participated in a lecture about recycling, the method of being zero waste, about recycling practices, or about

making zero waste home appliances. Other respondents participated in roundtable discussions, artistic workshops or quiz games. From the different kind of topics, it is apparent that the focus is mainly on practices that help people in their everyday lives.

I am not presenting the results of the next question, because I made a mistake when giving the answer options, therefore the results are not correct.

The 18th question was intended to ask respondents, whether they thought that the environmental sustainability practices of festivals had an effect on attendee's behaviour. 88,2% answered with yes, only 11,8% thought that they did not affect their behaviour.

The next question was whether they had any practices or methods that they introduced at their everyday lives because of the influence of the festival. 28,3% said yes and 71,7% answered no. The yes answers were close to the workshop attendees' rates (10,5%). This could mean that these programs are in fact able to change their attendees' behaviour.

The 20th question tried to find an answer to how attendees view the organizers commitment to environmental sustainability at their events. 57,9% thinks that organizers are somewhat committed, 30,9% thinks that in contrast, they are not so committed. 6,6% thinks that organizers are very committed and 4,6% thinks that they are not at all committed. Nobody chose extremely committed as an answer. The rates seem realistic regarding this question as well, because some organizers might seem committed, but only because they have to comply with regulations, but others are truly trying to apply as many environmental sustainability practices as they can.

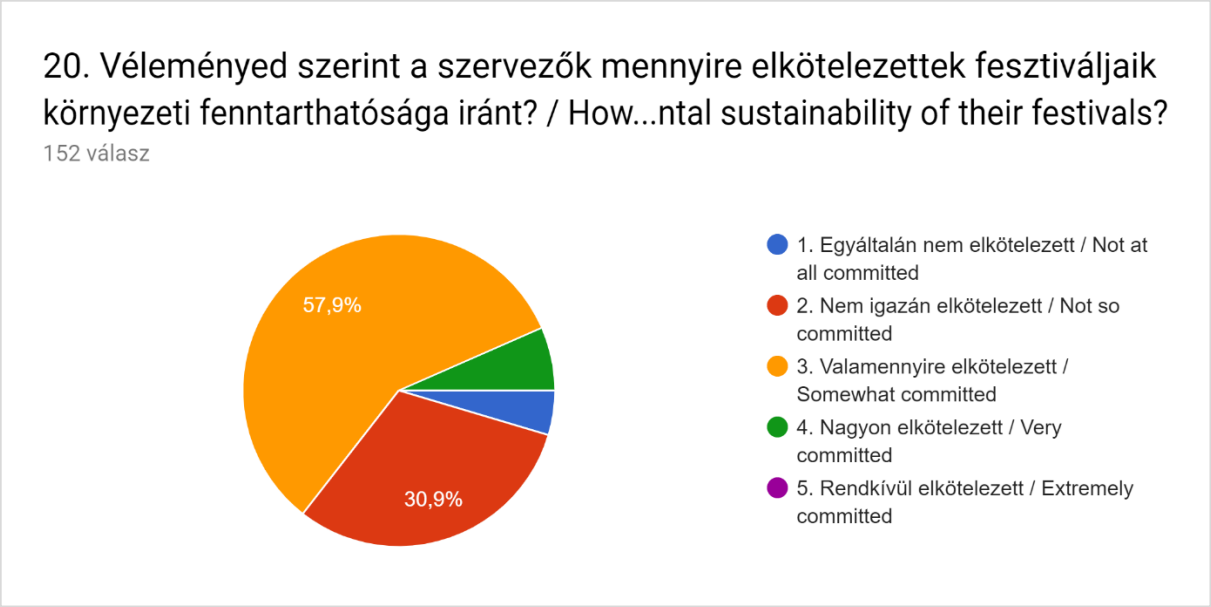

Figure 8. Organizers' commitment toward environmental sustainability of their events (Survey, 2019)

The last question asked them whether they were willing to pay more money if they knew that it was used for developing environmental sustainability methods. 69,7% answered with a yes, and 30,3% with no. These answers surprised me, but it was good to see.

The very last question was open and not strictly related to the survey. If anybody wanted to add any comment, they could. Besides the nice cheering messages, very informative comments were made, too. Someone raised my attention to the ecological footprint of the vegan lifestyle, another person questioned why smoking was included in an environmental protection related survey. Another respondent commented, that at smaller festivals, the environmental sustainability programs are not at all visible. To supplement the 21t^{h} question, a respondent said, that in theory he/she would be willing to pay more money to enable the festival to develop and implement more environmentally friendly practices, but he/she is not so sure that the money will actually be used to do that. Someone left a very disappointed message: "Unfortunately, it became very frequent that things, that are not actually eco-friendly are sold as being sustainable just for the profit. For example, it is very

appealing and comforting to use a reusable cup at a festival, but I do not think that it is the most environmentally friendly practice. The same goes for PLA cups and wooden cutlery. For example the use of biodegradable and compostable dog excreta bags are very appealing as well, but until someone throws them in the communal trash, what is the point?...”

I am sometimes afraid that this person might be right, that these practices are only there to comfort us. However, as in the case of Sziget or Gyüttment, they seemed to be aware of their impacts, and truly try to reduce at least a little bit of the pressure they put on the environment. Someone actually mentioned Gyüttment Festival and its zero waste policy. Someone stayed real, saying that it is very hard for an average person to live environmentally friendly, even if they want to. A lot of things are expensive, or in case of lacking proper support, these eco-friendly practices can be very time consuming. Some were lacking state aid and the nonexistence of teaching younger generations to live a more sustainable lifestyle.

To summarize, it can be stated, that for most of the people, environmental protection and sustainability is a sensitive and important topic. More and more people try to involve environmental sustainability practices in their everyday lives and reach results with them. Therefore, it became an expectation for the festivals to act accordingly.

However, the difference between theory and practice is clearly visible from the questionnaire. Another conclusion taken from the survey is, that the environmental practices that are used for a long time now, are welcomed by most of the attendees. These practices, like selective waste collection or the avoiding of plastics are now part of their everyday live as well. However, they seem to be open about other newer practices, therefore festivals are encouraged to implement for example compost toilets.

The community experience is crucial during festivals, the need for joint action came up multiple times during the survey, therefore organizers should consider its importance and prepare even more interactive workshops. This is supported by the fact, that most people

would pay more money to be able to participate in more environmental sustainability programs.

Some kind of scepticism is there in the answers of respondents, because they feel that a lot of the times, these sustainability practices are only there in theory, they are very hard to achieve and maintain in their everyday lives and at festivals, too. However, it is noticeable that environmental protection becomes more and more important for the average people, too, receiving no rejecting answers justifies this.

Due to these reasons, I think that organizers should consider the expectations of their attendees, even at smaller events. And as one of the respondents mentioned, the importance is not to follow the trends, but to follow what can actually be achievable and useful and which in fact, contributes to the fight for environmental sustainability.

5 Conclusion and Recommendations

Starting a research on this topic proved to be hard and presented many challenges along the way. Due to very little amount of literature on the topic of environmental sustainability practices of festivals around the world, or just environmental sustainability of festivals in general, forced me to alter the topic several times. This is why, in the end, the topic became the environmental sustainability practices of festivals from around the world and from Hungary. To support the importance of research about this topic, the survey carried out during the thesis preparation time helped me.

As part of the literature review, today's environmental challenges were presented which were mainly caused by overpopulation and human activities. These environmental challenges and issues are air pollution, global warming and climate change, deforestation and land-cover change, water pollution and the depletion of water resources and biodiversity loss.

Presenting these issues served as an introduction as to why the chosen topic is important. It proved, that there is a strong need for sustainability and sustainability measures today, more than ever before. By going through the concept of sustainability and sustainable development and by presenting the different sustainability goals, it became clear that just like regular people, festivals can contribute to reaching the set goals. After introducing environmental sustainability, a section was written about events and festivals and how they come into the picture. As more and more scientists and politicians started to realize the importance of sustainability, more and more pressure came from regular people. Festival organizers realized that in order for their events to be successful, and due to their duty to raise awareness among attendees, they have to participate in sustainable event management. To do that, they just have to choose from the many environmental sustainability practices and technologies offered.

Choosing from the many existing practices sounds easy, but only when they are collected in one place, and the organizers do not have to carry out hard research for them. The thesis helps to solve this exact issue.

The paper collected and described all the environmental impacts festivals have on the environment. The impacts identified were littering and waste, air pollution, energy consumption, water consumption and pollution, noise pollution, and vegetation loss. It was clearly described in what way do they contribute to the world's environmental issues. For example, littering and waste contributes to biodiversity or water pollution, the energy and fuel consuming methods of festivals are contributing to air pollution and climate change, noise pollution contributes to biodiversity loss just like vegetation trampling does.

To prevent negative impacts, more and more festival organizers decide to include environmental sustainability measures at their event. Considering the Triple Bottom Line approach, practices of seven festivals were collected from all over the world. The practices compiled in tables are available at the Appendixes.

Most of the practices that concerned the management of litter and waste were guided by the 3R, however it was not fully applied at all the festivals. Lightning in a Bottle was the only festival that involved reduce initiatives. All seven festivals use some kind of reuse method and collects waste separately and six festival uses recycling practices. Three festivals, Boom, Lightning in a Bottle and Roskilde thinks that it is important to raise awareness through workshops. Six festivals employ volunteers – Boom, Fuji Rock, Lighning in a Bottle, Pohoda and Roskilde.

Air pollution prevention methods were the promoting of bicycle use, which Glastonbury and Roskilde did or the use of electric cars and trucks, which only Roskilde did. Pohoda encouraged its attendees to come by their special trains, Glastonbury and Lightning in a Bottle promoted the use of public transport. Carpooling and using the festival's transport

was encouraged at Lightning in a Bottle, too. Other practices were the manual separation of waste, biofuel use, anaerobic digester, and designated smoking areas

Regarding the reduce of energy consumption, four out of seven festival switched to the use of LED lighting – Boom, Glastonbury, Pohoda and Roskilde. Roskilde invested in automatic timers, too. Many festivals introduced renewable energy, like solar (Boom, Glastonbury, Roskilde) or wind power (Glastonbury). Glastonbury even invested in a heat pump.

The water consumption and pollution prevention methods consisted of intelligent water meters from the part of Roskilde, or flush toilets from the part of Pohoda. Compost toilets are used by Boom, Glastonbury and Splendour. Four festivals – Glastonbury, Lightning, Pohoda and Splendour – promoted the use of reusable bottles, and one festival, Boom watered their territory with treated irrigation water.

Regarding noise pollution control, only three festivals – Glastonbury, Roskilde and Splendour – had any kind of information about, but only Splendour considered its impacts on wildlife.

To manage vegetation loos, Roskilde hired locals for restoration, Boom and Pohoda encouraged its attendees to participate in gardening activities, Fuji Rock put down some boardwalk and Boom, Glastonbury and Splendour planted trees. Boom used domestic animals to fertilize the fields of the event.

Three festivals had information about their procurement on the internet, Boom, Pohoda and Roskilde, they invested in eco products, bought reusable cups and organic merchandise.

Compared to them, Sziget used many of the practices mentioned before, except for the special express trains, biofuel, anaerobic digester, smoking areas, automatic timers, wind power, charging of electric cars, ground source heat pump, intelligent water meters, compost

toilets, watering with treated irrigation water, planting trees and using domestic animals for fertilization. But instead they hold workshops, they invited many inspirational speakers, like Dr. Jane Goodall, they put on separate energy meters at vendors, build an eco-camping, prohibit straws and other plastics and many more.

Gyüttment Festival was presented as an alternative for the bigger festivals. It showed that being a zero waste festival is not impossible. However, due to many festivals being run by sponsorships, they are not able to transform to be zero waste, but they can take some of their practices, like purchasing food from the close proximity of the festival during their event.

After presenting the festivals' environmental sustainability initiatives and compared them to Sziget and offered the alternative with the help of Gyüttment, the results of the survey were presented.

The survey justified the importance of the thesis by receiving very positive answers regarding attendees' interest in environmental sustainability programs. Most of the respondents were supporting of the methods that were described, and they emphasized the importance of having many different sustainability measures at festivals. They also thought that organizers should be more invested in developing more environmentally friendly practices, they would even pay more money to support them. The survey showed that some of the respondents were sceptical about these sustainability practices, but even they considered community experience to be important.

To summarize, with the help of the literature review, the interviews and the survey, a comprehensive picture was provided about the current trends of environmental sustainability practices worldwide and in Hungary. All of them confirmed, that choosing this topic was important, because the discussion about environmental issues are growing all around the world. Festivals being huge pollutors, therefore have to collect and assess their environmental

impacts, so that they can provide solutions for them. Festivals having the ability to influence attendees, took on the responsibility to raise awareness and provide their festivals with the most varying environmental sustainability practices. Although one event could have many different methods to many different problems, all in all, all the examined festivals were using very similar practices. Their most preferred waste management practice was to reduce, reuse, recycle, their air pollution preventing programs included the optimizing of generators, their energy consumption reducing practice included the use of renewable energy. In addition, their water consumption and pollution reducing programs included the switch to biodegradables and compost toilets, and their vegetation loss management program included the planting of trees. The only impact they did not offer solution for was noise pollution. The Hungarian festival, Sziget shared many of the same practices of the international festivals and many more, and Gyüttment provided a completely different alternative. The survey brought awareness to the importance of applying these environmental sustainability practices at festivals, because as it can be observed, the discussion about sustainability grows bigger and bigger. Therefore, it is recommended for organizers to invest in more environmental sustainability practices at their event.

5.1 Suggestions for Future Research

This thesis serves well as a thorough introductory document for further research regarding the environmental sustainability practices of events worldwide. It is also a great introductory document for further research in the Hungarian festival scene's practices.

The document can be complemented any time, with other festival's sustainability practices, but to take the topic even further, researching how to organize environmentally sustainable events would be interesting.

Another option could be to focus on one particular impact of festivals and carry out a more thorough research.

But, because a limitation to the thesis was the lack of data, an assessment report or the creation of a sustainability policy to one festival would be a great research topic for the future, as well.

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8. Appendixes

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Reduce				X				X	X
Reuse	X	X	X	X	X	X	X	X	X
Recycle	X	X	X	X		X	X	X	X
Themed talks and workshops	X			X		X		X	X
Separate waste collection	X	X	X	X	X	X	X	X	
Volunteers	X	X	X	X	X	X		X	X

Table 1. Litter and Waste

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Promoting bicycles			X			X		X	X
Use electronic cars and trucks						X			
Special express trains					X				
Promoting public transportation			X	X					X
Carpooling				X				X	
Use festival's transport				X				X	
Manual waste separation	X							X	
Biofuel		X	X						
Anaerobic digester			X	X					
Smoking areas		X			X				

Table 2. Air Pollution

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
LED lighting	X		X		X	X		X	
Automatic timers						X			
Solar lighting	X		X			X		X	
Wind power			X						
Charging electric cars					X				
Ground source heat pump			X						

Table 3. Energy Consumption

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Intelligent water meters						X			
Flush toilets with utility water					X			X	
Chemical toilets					X			X	
Compost toilets	X		X				X		X
Promoting reusable bottles			X	X	X		X	X	X
Watering area with treated irrigation water	X								

Table 4. Water Consumption and Pollution

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Noise limits			X			X		X	
Consider noise's impact on wildlife							X	X	X

Table 5. Noise Pollution

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Hire locals for restoration						X		X	
Gardening	X				X			X	
Boardwalk		X						X	
Planting trees	X		X				X		
Domestic animals in festival's area	X								

Table 6. Vegetation Loss

	Boom	Fuji Rock	Glastonbury	Lightning in a Bottle	Pohoda	Roskilde	Splendour in the Grass	Sziget	Gyüttment
Eco products						X		X	X
Reusable cups						X		X	X
Organic merchandise					X			X	
Usage of organic and sustainable materials	X								X

Table 7. Procurement