



SUSTAINABLE DEVELOPMENT GOALS: TOURISM AND SUSTAINABILITY CHALLENGES IN THE CASE OF GREEK THEMATIC MUSEUMS

Dr. Ioakimidis Panagiotis

Museum Collection of the Ionian University, Corfu, Greece

ioakimidisp@yahoo.gr

Dr. Vlizo Stavros

Associate Professor, Ionian University, Corfu, Greece

vlizost@ionio.gr

Article history:	Abstract:
Received: 1 st September 2021 Accepted: 2 nd October 2021 Published: 26 th November 2021	In contemporary society, talk of "sustainable development" has finally become the norm. It is indicative that in 2015 the United Nations included sustainable development in their "Transforming our World" Declaration, as featured in the 2030 Agenda. This Agenda adopted 17 goals and 169 targets, and it constitutes the most ambitious global agreement achieved by the UN, especially considering that it forms a comprehensive action plan for peace and prosperity for people and the planet (Hellenic Aid, 2019). Museums and cultural sites must bear part of the responsibility for achieving this plan. Obligations come with it, given that these institutions partake in society and the fabric of daily life. This present article details the innovative ways in which Greek thematic museums can adapt to sustainable development goals, and more evenly meet new challenges of domestic and global economy and tourism.

Keywords: Thematic museums, society, sustainable development, tourism, Greece

INTRODUCTION

The United Nations' Agenda 2030 aims to encourage integration of the four dimensions of sustainable development – society, environment culture and economy – across all policy sectors, with an implementation framework stretching to 2030. At the same time, the agenda fosters interconnectivity and cohesion of political and legal frameworks relating to Sustainable Development Goals (SDGs), whilst taking into account various national realities, stages of development and national policies and priorities.

Agenda 2030 designates the eradication of poverty in all its shapes and forms as the greatest challenge to sustainable development, through 17 interconnecting and inseparable SDGs (see: Hellenic Platform for Sustainability, 2015). Combating poverty depends, for instance, on strategies that improve health and education, reduce inequality, and spur economic growth while tackling climate change, and working to preserve our ecosystems. A museum, defined by the International Council of Museums (ICOM) is "a non-profit-making, permanent institution, **in the service of society** and its development, and **open to the public**, which acquires, conserves, research, communicates and exhibits, for the purpose of study, education and enjoyment, material evidence of man and his environment" (Ambrose and Paine, 1993, p. 9), plays a key role in meeting this challenge.

How do museums connect to sustainable development?

Museums certainly have a lot to offer when it comes to Agenda 2030; in fact, some of the Agenda's goals cannot be attained without the contribution museums can make, because museums, and their collections, constitute essential means through which to protect tangible and intangible information that pertains to human civilizations, as well as to natural habitats: Museums as spaces for cultural transmission, intercultural dialogue, learning, discussion and training, also play an important role in education (formal, informal, and lifelong learning), social cohesion and sustainable development (McGhie, 2019, p. 29). Indeed, museums are uniquely positioned to raise the citizen's awareness with regard to the value of our cultural and natural heritage, and the contribution everyone can make towards their care and conservation. At the same time, museums can support economic development, especially in combination with other cultural institutions and creative industries, but also through tourism. It is my personal assessment that museums must ensure that their visitors are able to access more information outside the museum than just during their visit. In this sense, the introduction of new technologies to museums is but one of the ways in which visitors can access a large volume of reliable information concerning a collection and other exhibits during, or after, their visit (Powell 2000, cited in MacDonald 2006, p. 548).

The ICOM increasingly recognizes the crucial function that its members must play in promoting sustainable development. In 2018, ICOM created a working group (MDPP) with the objective of promoting ICOM's contributions towards sustainability and sustainable development, noting that museums are uniquely positioned to facilitate collective action on a global scale, through the creation of networks, and by raising public awareness as well as by supporting knowledge creation (ICOM 2018)

In this sense, citizen participation, together with research and training, already form part of a broad range of inter-related efforts and initiatives. For example, education, training, raising awareness, public participation, access to information and international cooperation are specifically mentioned in the United Nations Framework Convention on Climate Change (1992) and the Paris Climate Agreement (UNESCO/UNFCCC 2016, p. 2). Given that, it is crucial to activate mechanisms that will connect museums to objectives of this policy: encouraging expertise exchange, giving prominence to achievements resulting from that, and enhancing actions that are aimed at a sustainable future.

Museums and sustainable development: a bidirectional relationship

Museums have at their disposal some quite distinctive resources which allow them to play a leading part in social life; consequently, a museum can make a significant contribution to any successful effort to achieve the SDGs. To begin with, museums showcase both cultural and natural heritage, since they can drive visitors, both via individual objects and museum collections, towards an intellectual understanding of the past, present and future. As to the past, "Probably most people, most of the time, view the past not as a foreign but a deeply domestic realm" (David Lowenthal, 1998, pp.15-16). Museums can play a crucial role in enhancing public education and participation with the SDGs (McGhie, 2019, p. 32). Large numbers of people can thus be attracted, in the context of formal and informal learning. This could play an important role in boosting public education, improving people's interest and their ability to be concerned with issues that relate to SDGs.

Moreover, museums can greatly contribute to the local economy. Through their operation and use of resources, museums can positively impact impoverished areas (a case in point would be Gazi, in Athens – hence our studying the Industrial Gas Museum (see below)) or wherever marginalized populations live – another key example here being the Plato Academy Digital Museum: it puts the emphasis on joint action, and on exchanges and collaboration between Greek and foreign educational institutions, supporting foreign researchers and encouraging museum visitors to actively participate in social and cultural life. "In fact some places, and nowhere more so than in the heartlands of modern world capitalism — places like New York, Los Angeles, London, Paris and Tokyo, to mention only a few of the most obvious examples — continue to be unique and highly creative generators of culture, and above all, to function as the bulwarks of a new cultural economy of capitalism" (Scott, 2000, p. 324). Finally, museums can participate in, facilitate and initiate cross-sectoral partnerships and play a leading role in pursuit of the SDGs (McGhie, 2019, p. 33).

Some typical examples here include the Industrial Gas Museum's collaboration with Greek universities based in the Athens prefecture, with the purpose of students' academic training, or with the 'Lighthouse for the Blind' Association in jointly organizing museum visits. There is also the collaboration of the Tobacco Museum of Kavala with the Tobacco Workers Cooperative – the entry in the National Registry for Cultural Inheritance of Greece was in August 2020, for the "growing and cultivating of Eastern Anatolian tobacco". Another collaboration is that between the Mastic Museum of Chios and the Union of Mastic Gum Producers for the promotion of products and museum exhibits to tourists.

Engaging with the SDGs will enable museums to support people who are interested in issues relating to the development of a fair, just and tolerant society, and a healthy and protected natural environment (McGhie, 2019, p. 34). What is more, connections between museum spaces and the public are further strengthened through educational and participatory activities, giving everyone the ability to be meaningfully involved across a framework of operations, sharing a common language and goals. This will give museums opportunities to form new collaborations with government, industry, academia and the community, and create public value from new forms of partnership. (McGhie, 2019, p. 35). Similarly, this is a reality that can benefit museums across several fields, strengthening interdisciplinary collaborations and spurring partners towards obtaining access as well as fostering new funding opportunities.

The contribution of museums to sustainable development

For museums, museum networks, and the people that work in them to fully harness their potential, they need to understand how they can contribute to achieving the SDGs. More specifically, museums and their staff, networks as well as other interested parties, must all follow some simple steps, and be involved in certain courses of action, so that their contribution in achieving the SDGs is successful.

To begin with, all parties must understand how SDGs constitute a fully integrated plan of interventions with the goal of benefiting people, our planet and prosperity (these being the three main goals of sustainable development). As a framework, the purpose of SDGs is the enhancement of human and environmental rights, and achieving a more sustainable future, one where we seek and encourage peace. Everyone interested in pursuing the Agenda must commit to it, adopt a stance with respect to SDGs and carefully choose their own role in achieving them. These positions may include (McGhie, 2019, p. 40):

- Communicate up to date science and information linked to the SDGs
- Provide public access to a range of resources linked to the SDGs

- Present a range of views on sustainability issues and the SDGs
- Enable people to examine sustainability and sustainable development as connected cultural, political, technological, economic and scientific issues
- Provide information on how people might adapt their lifestyles and consumer choices to address the SDGs
- Provide a forum for individuals, communities and organizations with an interest in sustainability to address the SDGs
- Play a part in networks of individuals, communities and organizations with an interest in addressing the SDGs
- Promote collective action for the SDGs
- Participate in SDG-related research
- Lead opinion to address the SDGs
- Take a critical stance on sustainability policy and decisions linked to the SDGs
- Lobby on sustainability issues

It is essential that all involved parties must study the benefits of supporting SDGs, as well as the dangers that result from not endorsing them. It is also crucial to ensure that contributing to the realization of certain SDGs does not lead to obstructing others. The development, promotion and regular updating of an action plan is necessary to increase positive contributions and minimize negative impacts.

The seven activities below form a crucial template in which museums can contribute to the SDGs. This list is not exhaustive but should be adopted by most institutions such as museums, as well as by organizations forming relationships with museums and their associates. As is the case with SDG's themselves, these seven activities must be contemplated simultaneously, to ensure that action in one area does not adversely affect others:

1. Protect and safeguard the world's cultural and natural heritage, both within museums and more generally
 2. Support and provide learning opportunities in support of the SDGs
 3. Enable cultural participation for all
 4. Support sustainable tourism
 5. Enable research in support of the SDGs
 6. Direct internal leadership, management and operations towards the SDGs
 7. Direct external leadership, collaboration and partnerships towards the SDGs
- (McGhie, 2019, p. 42):

It therefore becomes clear that museums, through their actions and mode of operation, can contribute to sustainable development and manage to combine the key pillars that may lead us to it: on the social side, museums can offer a range of events and thematic activities to the public. A museum that welcomes many visitors thus makes a significant boost to the development of the local community. The museum also creates job opportunities, and this helps to address poverty and unemployment in the surrounding area. Museums have a positive impact upon social wellbeing, economic growth and conservation of the environment, not least by helping visitors to understand the issues involved. According to Zukin (1996, p. 44), since the 1980s there has been growth wherever museums and galleries were created. A key example here would be New York's SoHo district, which became a meeting place for artists within a broader plan that involved gradual deindustrialization, an increase in investment value for art, combined with the establishment of New York after WWII as the modern world's center for the arts. The renovation of buildings, the rising prices of even small residences, but also – negatively – the displacement of poorer residents are among the key markers of economic growth. In addition to the above, today SoHo can also point to the creation of a Guggenheim Museum Annex in the district: in this sense, culture, sustainable development, and tourism are closely interconnected.

How does tourism connect with/relate to sustainable development?

Sustainable tourism, a relatively new trend, has grown in significance over the past twenty years. It is a flexible notion, emerging from sustainable development as the overarching concept. It therefore helps to realize the same goals and principles (Liu 2003, p. 459, p. 462) concerning the field of tourism. Sustainable tourism essentially focuses on quality, continuity and balance. Through sustainable tourism, quality is understood as providing valuable experiences for visitors, in the context of improving the quality of life of local communities, while highlighting the key importance of the natural environment. Sustainable tourism also cannot exist in the absence of a continuity of natural resources, and without the presence of the culture and traditions of host communities (Bulin and Calaretsu 2011, p. 62). Its aim is to secure a balance among all involved, including the tourism industry, social and environmental agencies, local communities and government. Further, the strategies of managing sustainable tourism should include long term planning and the keen participation of all interested parties (Cassar, 2015, p. 7)

By sustainable tourism development we define tourism development that operates in a balanced manner across the local, social, economic, cultural and environmental fabric of each tourist location, simultaneously creating the conditions (services, infrastructure, know-how) for continued feedback on it (Kokkosis and Tsiartas 2001, 188-189).

Zisis (2003, p. 222) argues that sustainable tourism is understood as such in two senses: first, by being sufficiently competitive towards other tourist propositions under market conditions (thus it has to be financially viable). Secondly, sustainable tourism does not adversely impact the environment; or, if it does, it can manage any adverse effects in

such a way that they are eventually undone or minimized (sustainable tourism does not therefore damage natural resources, and thus effectively contributes to nature conservation and its sustainability). In the case of sustainable tourism, development primarily adapts to the needs of protecting its environment.

Despite a range of different formulations, there appears to be some consensus on sustainable tourism as rising to protect the natural, social, economic and cultural environment of a certain region, and conserving this environment through time, whilst also enhancing localism. When we refer to the notion of localism in the context of the city, we are essentially concerned with region and with culture, two notions that are irrevocably connected and interdependent. Indeed, "Each community represents a node of location-specific interactions and emergent effects (cf. Entrikin, 1991) in which the stimulus to cultural experimentation and renewal tends to be high" (Scott, 2003, p. 324). The cities of Bilbao and Sheffield are key examples of European cities that have attempted to improve their financial position in the European context through cultural interventions and activities. These cities competed for, and then successfully implemented, the 'Cultural Capitals of Europe' program in 1990 and proceeded in conveying a distinctive image, as well the cultural ties between them (Arvanitaki 1994, 2).

Greece faces a similar challenge as it hosts the event for the fourth time in 2021 in Elefsina, following the precedent of Athens, Thessaloniki and Patras as Cultural Capitals in 1985, 1997 and 2006 respectively. The Elefsina proposal was entitled 'A Transition to Euphoria', and this is a characteristic example of working towards sustainability and showcasing a city's culture: Elefsina 2021 exists as an effort to connect the arts and culture with the environmental, social and economic challenges of today.

Consequently, Elefsina, a city that was considered to be underdeveloped for decades, has taken a step forward; especially since the history of this EU project has shown that all European Cultural Capitals of Europe eventually saw their size and recognition enhanced. Today, this European institution is synonymous with a large-scale contribution to the cultural, social and economic development of many cities, and their neighboring regions, across Europe.

Correlating Greek Thematic Museums to SDGs

As Brundtland (1987)¹ characteristically puts it, "Sustainable development is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The three-dimensional – that is, social, economic and cultural/environmental – role of thematic museums, in conjunction with the new responsibilities bestowed on them, should contribute, in turn, to sustainable development. This entails a museum's own development as well as that of deprived and disadvantaged areas near it. More specifically, what we scrutinize here is the way in which museums connect with their visitors, and study closely their role within society, and contribution to the sustainability of a given area. In this sense, we will proceed to consider the case of the Open-Air Water Power Museum (Dimitsana, Peloponnese) and that of the Industrial Gas Museum (Gazi, Athens). A stated objective for thematic museums is for them to also serve as a place for education, entertainment, and cultural events, and to become destinations in tourist's itineraries in general, whilst also remain a big draw for special 'tourist packages', ones particularly connected to sustainability. The case studies that follow concern places that arguably constitute a guiding light when it comes to this new philosophy of sustainability being cultivated in thematic museums in Greece.

1. Case Study: Open-Air Water Power Museum of Dimitsana

The Open-Air Water Power Museum in Dimitsana is a thematic museum highlighting the value of water power in a traditional community, presenting to visitors the principal pre-industrial techniques employed in the use of water as a main source of power for the creation of various products. (see: Piraeus Bank Group Cultural Foundation, 2016; hence referred to as PIOP). It is one of the few museums in the world dedicated to water power, and stands as a typical example of a pre-industrial installation. The museum includes a grain mill, a whirlpool, a tannery and a gunpowder mill. Up until the middle of the twentieth century, there were around 100 such water-powered installations in the Loussios river area.

First opening its doors in the summer of 1997, the Open-Air Water Power Museum receives thousands of visitors every year. The result is the financial wellbeing of the museum itself but also the survival of businesses in the surrounding area, as tourist numbers keep increasing. The rise in numbers is also due to congress tourism that has developed in the area these past few years. The Dimitsana Conference and Cultural Center has hosted 25 conferences and scientific/academic meetings in just the first two years since it was established. In collaboration with the Greek Tourism Organization, Dimitsana hosted the third European Convention for Certified Paths in November 2017, its aim being to promote the sustainable development of local communities throughout the year via a particularly popular form of alternative tourism, such as hiking. A variety of educational and recreational trails in the broader area of Dimitsana, and around the Open-Air Water Power Museum, have resulted in economic growth for this village of stone-built houses. The fact that the museum operates under the auspices of the Piraeus Bank Group Cultural Foundation, also provides a key advantage when it comes to promoting it, since the Foundation organizes a range of academic, educational and

¹ A former prime minister of Norway, Gro Harlem Brundtland wrote "Our Common Future" known as the Brundtland report, originating in the World Commission on Environment and Development, that was established at the U.N. in 1983.

cultural events and promotes them across printed and digital media. At the same time, collaboration with local communities, and their planning their own cultural initiatives is encouraged. For the most part, the museum is a destination for tourists during the winter, the vast majority of which visit the area for just one day.

The Open-Air Water Power Museum was a recipient of the Europa Nostra Award in 1999, and in 2003 was also included in the list of the 27 most successful projects in Greece that were co-funded by the European Union.

The Museum has proved to be a big draw for educators, being visited by scores of pupils in the course of the school year. The culture of the area is highlighted through its rich educational programs, with cultural traditions being intelligently revived, creating feelings of nostalgia in visitors. Typical examples of these educational programs are fairy tales such as 'The Princess and the Man Taken by the Water', and other stories revolving around the element of water, but also 'Water always runs' an oral storytelling performance. It is essentially a workshop that involves an exchange of stories, legends, and memories for young adults, as well as adults.

One of the buildings here doubles as the residence of the tanner, and the tannery. The paved stones lead to a clearing where a natural reservoir forms, itself leading to the gunpowder mill. Gunpowder constitutes a strong element of cultural identity of the area and is kept alive in the collective memory and stories told by its people. It is precisely this historical identity that the Open-Air Water Power Museum showcases, reconstructing the type of gunpowder mill at work in areas such as Dimitsana during the time of the Greek Revolution and up to the beginning of the twentieth century – salvaging, at the same time, this particular method of gunpowder production, which has disappeared from Europe since the eighteenth century.

In tune with the call for sustainable development, the Open-Air Water Power Museum commissions a number of educational programs and actions, all of them adapted to the environment and its protection, and also by showing educational films (in association with the PIOP). For instance, 'Tears of the mountain', one such film, is an adaptation of the *Odyssey*, taking place at start of the previous century. The film highlights the need to eliminate poverty in all its forms, to eliminate hunger, and to secure standards of sustainable consumption and production; and promotes sustainable economic development that aims to include everyone, promoting decent work for all. These are all messages drawn from across Agenda 2030 for Sustainable Development. Like other thematic museums of the PIOP Network, the Open-Air Water Power Museum champions sustainability, and has been included in plans to upgrade energy efficiency through installing heat pump equipment.

When it comes to principles of sustainable development, and alignment with Agenda 2030, the Piraeus Bank Group Cultural Foundation particularly highlights the goals of protection and improvement of both natural and man-made environment. It does so through a range of actions, the objective being to protect and conserve our cultural heritage. Together with EPISEY and Clio Muse, the Piraeus Bank Group Cultural Foundation has created PLUGGY (Pluggable Social Platform for Heritage Awareness and Participation), a social media platform. The platform is a modern tool for protecting the cultural and historical wealth that every country possesses, and a means for transmitting knowledge to later generations through the digital realm, following the needs of today's world and the zeitgeist (source: PIOP)

Being part of the Foundation, the Open-Air Water Power Museum recognizes that its operation and actions are inextricably linked to both social and financial activity in the area, as well as with natural and man-made environment. It is not therefore surprising that as well as marketing and advertising, PIOP also has a separate department dedicated to the environment. This department is in fact responsible for linking thematic units with the environment. With regard to the environmental credentials of the Foundation, the PIOP keeps a record, and each year publishes data on any adverse environmental effects resulting from the operation and activities of institutions in its network, as well as of the measures taken to minimize them. These elements can easily be sourced from the Foundation's official webpage. Systems of heating and cooling at the Open-Air Water Power Museum operate based on real conditions and the number people in the building at any given time, while choosing low-energy-consumption lighting fixtures also brings down operational costs. The efforts at sustainability of this whole venture would not be successful if the museum and its people did not see fit to make changes to their daily practices at all levels: for instance, the museum issued a list of all appropriate cleaning products for use in areas of the museum, and trained the staff tasked with maintenance on how to store, use and discard chemicals, paper and other material.

Like other thematic museums in the PIOP network, the Open-Air Water Power Museum is cooperates efficiently with the EXCELIXI² Center at the Piraeus Bank Foundation, which focuses on integrating aspects of sustainable development to the fabric of society and people's lives. Educational programs and seminars, e-learning and courses on green development are just a few of the services offered through EXCELIXI. The goal here is the implementation of actions and how to best adopt solutions and practices that are both cost effective and that care for the environment.

2. Case Study: The Industrial Gas Museum in the Gazi area of Athens

The Industrial Gas Museum is the first Industrial Museum of Athens, with the stated aim of showcasing a key aspect of the city's modern history: the old industrial gas factory of Athens, which provided Greece's capital with light and

² EXCELIXI S.A.: Center of Sustainable Entrepreneurship, is a member of the Piraeus Bank Group.

energy and for 130 years. The Greek sector of ICOM announced it was honoring the museum in 2015, on a World Museum Day that was themed around 'Museums for a Sustainable Society'.

The museum is an advocate for rescuing and enhancing the cultural heritage of Athens. It is firmly focused on industrial technology and fosters connections of culture with the environment and sustainable development. The museum welcomes several thousands of visitors every year and functions as an active cultural center in Athens. Its collaborations with the Ministry of Culture, local and regional authorities and, above all, the local community, make the IGS a key attraction for thousands of visitors each year.

This unique and innovative industrial museum – both by Greek and European standards – comprises a rare monument from Greece's industrial and cultural heritage. As an attraction for visitors of every age group from Greece and abroad, the museum has successfully fused together old and modern elements. By way of illustration, the museum makes use of new technology and interactive applications, 3D projections which integrate ingeniously with historical artifacts, artistic representations of machinery, and abundant audiovisual material. Thus, the IGS compares favorably to the great, postmodern industrial museums of Europe.

For a museum – especially a thematic one – to be deemed successful in twenty-first century Greece, it must have opened channels of communication with society, education and economy. The success of the IGS lies in part in how it has managed to render itself an invaluable part of the educational community in Athens: it has welcomed over 40,000 pupils and teachers in only its first three years of operation, and has created dozens of education programs and tours, hosted periodical exhibitions, speeches, theatrical performances, sleepovers and late-night happenings, and interactive tours aimed at children, young adults, adults, families and school groups.

The IGS is an integral part of Athenian society, given that the museum's heart consists of its many collaborators, volunteers and thousands of visitors. The museum opened in 2013 and has been enriched since then: being a part of local society means that its archival material constantly grows, the same being the case when it comes to photographs and interviews with those working at the factory in the previous century as well as residents of the broader area. This aspect of the museum is particularly fruitful, especially as visitors appreciate the ways in which the leadership of the museum has managed to successfully combine the old and the new (using interactive applications and 3D projection).

Since its establishment in 2013, the IGS has succeeded in becoming part of Athenian life and economy – visitor numbers continue to rise every year. The result is of course not only the museum's financial fitness, but also that of the broader area in the city of Athens, given that several businesses are based around the museum and are consequently benefiting from this high number of visitors. Following the renovation, and the reopening of the museum along with the regeneration of the surrounding area which resulted from this, what used to be the slum area of Gazi, described by Kostas Biris as "a mix of hovels and old shacks...a true hell of misfortune and corruption" (1996, p. 202), gave its place to rising land and property values in the broader area of Gazi. The rise in property values constitutes a key link in the economy here, as it has attracted investment to that area of Athens. This in turn led to the establishment of new local businesses, new employment opportunities and creation of new jobs. Therefore, the IGS's creation did not just have a positive social impact, but also led to solving a range of financial issues historically plaguing the Gazi area.

The museum has also succeeded in bringing together aspects of education, economy and local community in the way it operates, but also is synonymous with three other key features: identity, technology and innovation. The IGS has certainly aspired to and achieved, in the course of the seven years of its operation, a distinct identity as the only industrial museum in the country that works in conjunction with a hub for innovation and entrepreneurship, INNOVATHENS. The IGS strongly supports innovation and entrepreneurship: visitors to the Technopolis multipurpose facilities exceed one million per year, with obvious benefits when it comes to the financial fitness of the museum and the surrounding area. Beyond the fact that it promotes culture and offers diverse forms of entertainment to society, Technopolis also keeps prices reasonable, including those in the museum shop, all the while supporting the social work and engagement of the most important bodies and institutions operating in the city of Athens. More than 800 events take place every day at Technopolis, including concerts, exhibitions, film showings, educational programs, seminars and workshops on new technologies, initiatives aiming at the developing entrepreneurship and innovation, and those events that include everybody and confirm, time and again, the social character and sensitivities of this museum.

Inclusiveness, participation and creativity are the defining characteristics of the IGS: creativity in this context does not primarily relate to the realm of meanings, but mostly with the world of emotions, and is strengthened by actions based on participation and synergy, rather than on solo initiatives. For Robinson, "Creativity is sometimes associated with free expression, which is partly why some people worry about creativity in education. Being creative does usually involve playing with ideas and having fun, enjoyment and imagination. But creativity is also about working in a highly focused way on ideas and projects, crafting them into their best forms and making critical judgments along the way about which work best and why. In every discipline, creativity also draws on skill, knowledge and control. It's not only about letting go, but also about holding on" (2011, pp. 4, 249, 258, 268).

Sustainability and tourist development that accommodates the 2030 Agenda are key to IGS's planning, as proven by the educational programs and actions it implements. An example here would be the 'Planet Earth Calls for Superheroes' program, in which visitors of all ages had the chance to participate in various fun activities around the theme of superheroes involved in environmental action; visitors enjoyed themselves while gaining perspectives on how to protect a planet constantly emitting warning signals. Yet another educational program, this one taking place in October 2020, in the New Water Gas Tower, revolved around the premise of the 'escape room'. But this time, we find

ourselves in a *green* escape room, in which young visitors to the museum, prompted by set and sound design and special lighting, take the lead in protecting the environment – through solving mysteries and puzzles. Participants were tasked with escaping the green room and averting a great environmental disaster, one possibly caused by processing coal to produce industrial gas.

Finally, the IGS, through an abundance of workshops, initiates youngsters and adult visitors to the novel perspectives that museum spaces can offer. One example here is 'art conservation for all': an initiative that enables visitors to see up close the materials and instruments used by art conservators for museum collections – visitors are taught to use the equipment and gauges of Athens's Industrial Gas Museum with the help of student volunteers, as well as teaching staff from the Technological Educational Institute of Athens.

There is no success without synergy: telling in this respect, is the case of three museums that also function as spaces for education and entrepreneurship, co-organizing 'InHeritage', a three-day action focusing on industrial heritage and innovation.

This action took place simultaneous at three museum locations dedicated to Greece's industrial heritage:

- Technological and Cultural Park (Lavrión)
- Industrial Gas Museum (Athens)
- Lesbos Museum of Industrial Oil Production (Village of Agia Paraskevi, Lesbos)

The intention behind 'InHeritage' was to have visitors explore, discover, and be inspired by one of the more iconic spaces of Greece's industrial heritage; and to encourage them to work as part of a team in creating and sharing their own innovative ideas.

RESEARCH METHODOLOGY AND LIMITATIONS

This research was guided by the objective of determining the extent to which Greek thematic museums harmonize with the principles of sustainable development and whether museum staff, visitors to museums, and local communities agree with this philosophy. The methodology adopted in accordance with the objectives of this research, largely involved observation and in-person contact. Data was collected through interviews, and the timeframe allocated for this research was also very specific, a total of two months: July and August 2020. Both primary and secondary research was conducted in the course of this two-month period. From the outset, it was deemed essential to carry out effectively at least three out of four key modes of primary research pertaining to how data is gathered (Chisnall 1986, p. 19):

- use of questionnaires
- in-depth interviews with museum staff and residents of the area surrounding the museum
- observation
- experimentation

At this point it is worth taking note of one further issue that directly relates to the research method followed: that is, the method of communication used for interviewing, and the goal of maximizing the number of responses to the survey.

With regard to the secondary research conducted, this depended on gathering data located both inside and outside museums. The rapid development of new technologies and computer-based platforms resulted in ease of access when it came to this set of data.

There were several limitations and constraints to the research undertaken. By way of example, we should mention the inability of comparing the general characteristics of participants to those that did not take part in our survey. That is, the inability to ascertain how certain characteristics and markers connected with a decision whether or not to take part in this survey. The covid-19 pandemic also crucially limited the scope of our investigation, resulting in a smaller number of participants, and to the absence of printed questionnaires. But above all, the pandemic had an effect on interviewees, many of whom felt psychologically drained. However, the sincere interest in participating in this research means that based on this sample it is quite safe to draw conclusions about the general population,

EVALUATION OF RESULTS

Based near the Dimitsana traditional settlement, the Open-Air Water Power Museum presents us with some unique characteristics. It sees a large number of visitors (upwards of 2000 each month), many more than those visiting the traditional village where the museum is based. Table 1, below, records visitor numbers for the past few years, both in terms of tourists coming from abroad and those coming from within Greece – including organized school visits.

A report by Greece's Foundation for Economic and Industrial Research (IOBE) on behalf of the Piraeus Bank Group Cultural Foundation confirms the financial fitness of the Open-Air Water Power Museum. 2016 presented a case in point, with the largest portion of revenue coming from ticket sales. It is indeed worth noting that this increase in visitor numbers is quite an achievement, given that it is eight times the total of all other state-run museums in the prefecture of Arcadia, combined. The Open-Air Water Power Museum also managed to take fourteenth place amongst the country's 164 museums in terms of overall visitor numbers (IOBE 2017). This is a considerable financial advantage for the Arcadia region, since visits to the museum help extend the tourist season, considering that the larger part of

these visits occur beyond the summer months. In this sense, those visitors purchasing goods and services beyond the summer months also contribute to the growth of the local economy and its businesses. Establishing the Open-Air Water Power Museum became the driving force in the development of tourism in Dimitsana. It has even led to diversification in the productive sector – from the primary sector, to the tertiary sector that tourism generally represents.

The creation of the Open-Air Water Power Museum also brought about modernization to infrastructure and transport networks, conservation and restoration of buildings, new jobs and a shift overall from agricultural activity, towards tourism. According to the IOBE report quoted above, 64% of visitors stated that the Open-Air Water Power Museum contributed to their decision to visit the Dimitsana area. The museum generates money and employment in sectors that are specifically part of the supply chain for the museum, or are involved in maintaining it, but also positively affects the entire economic activity in the region.

	YMY												Total
	Jan-19	Feb-19	March-19	Apr-19	May-19	June-19	July-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	
Regular GR	132	142						108		196	158	246	1604
Reduced GR	8	1	2725	1116	750	489	455	0	660	7	3	7	1
Regular F										104	145		
Reduced F	99	132	189	206	277	65	227	352	275	1	8	697	5018
Free Admission GR	35	6	15	140	229	283	278	378	295	250	62	35	2006
Free Admission F	0	61	3	1	17	17	74	73	174	288	52	13	773
GR		110			287		122	151	113	154	187	202	2138
Free Admission GR	795	1	3221	2852	7	1215	5	4	9	9	5	1	4
Free Admission F	23	10	36	197	393	153	151	187	118	56	16	12	1352
Total	2.2	2.7	6.189	4.51	4.5	2.22	2.4	3.5	2.6	5.1	5.0	5.2	465
	80	31		2	43	2	10	84	61	51	46	45	74

	YMY												Total
	Jan-18	Feb-18	March-18	Apr-18	May-18	June-18	July-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	
Regular GR	224			167				122		116	203	352	1774
Reduced GR	7	1827	1711	3	741	346	663	3	589	2	5	8	5
Regular F	72	21	145	111	302	166	29	41	17	72	149	131	1256
Reduced F	11	17	77	236	351	245	246	269	365	160	49	15	2041
Free Admission GR			1	47	52	4	32	1	24	55	9	4	229
Free Admission F													
GR	179			330	266			214		242	357	311	2612
Free Admission GR	6	1467	2849	9	4	1077	964	3	746	1	1	3	0
Free Admission F	13	6	50	284	222	181	320	178	272	181	126	12	1845
Total	413	333	4833	566	433	201	225	385	201	405	593	680	492
	9	8		0	2	9	4	5	3	1	9	3	36

	YMY												Total	
	Jan-17	Feb-17	Mar-17	Apr-17	May-17	June-17	July-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17		
Regular GR	162	203	184	166				131		204	185	237	17192	
Reduced GR	6	6	5	7	597	496	657	7	679	5	5	2		
Regular F	74	75	260	212	83	279	45	61	17	82	131	59		1378
Reduced F	2	10	35	186	242	218	228	302	212	182	63	12		
Free Admission GR			1	1	20	7		7	1	1				38
Free Admission F	115	133	347	305				182	107	277	219	208		
GR	5	3	5	2	3501	1048	992	3	8	5	2	6		24510
Free Admission F		175	9	94	176	144	212	254	163	232	26	1	14860	
Total	2857	3629	5625	5212	4619	2192	2134	3764	2150	5317	4267	4530	46296	

Table 1: Visitor Numbers, Open-Air Water Power Museum

Table 2 presents the key points of this research on the Industrial Gas Museum

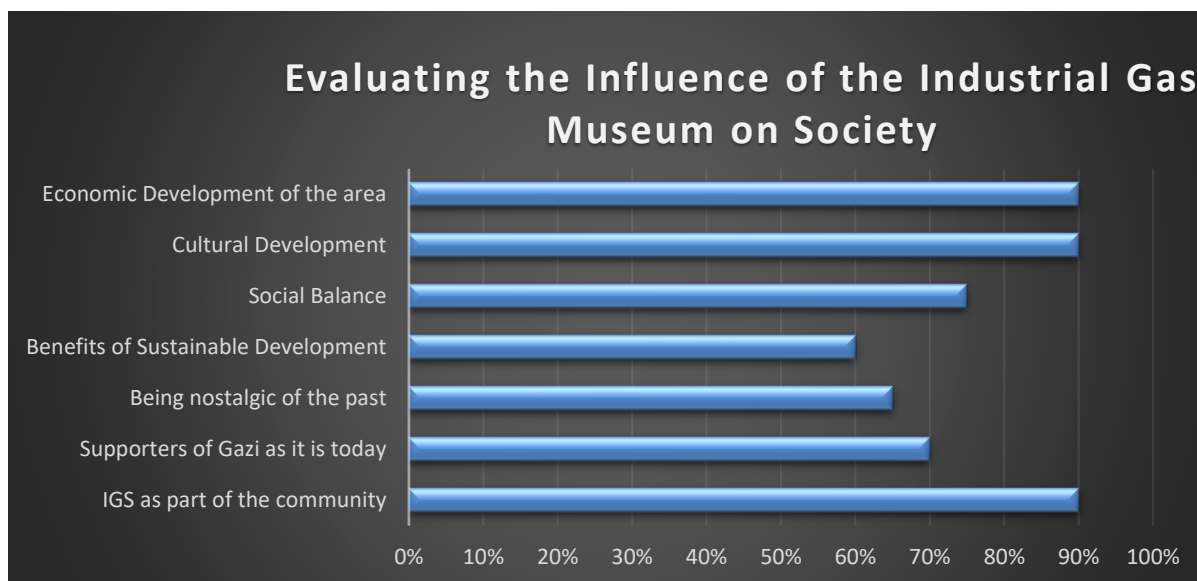


Table 2: Influence of the Industrial Gas Museum

The gentrification of the Gazi area during the 2000s was widely disliked by many (65%). Even though the value of plots in that area of Athens rose, and Gazi thrived financially, people experienced the springing of bars, restaurants, and entertainment venues as a 'violent change'. Intense noise pollution and changes in the physical environment were unacceptable to many. The benefits of sustainable development that come with the operation of the IGS are indeed easy to recognize, but certainly not by all (60%). Many residents benefited financially from ensuing redevelopment, yet some are still nostalgic for the authentic, poor neighborhood that used to exist in Gazi. 90% of those questioned can identify the Athens Technopolis, which contains the IGS, for the multipurpose cultural centers they are. Specifically, IGS is accepted today as a positive catalyst for change in the area, and by nearly all interviewees, some of whom reminded us of the donkey bazaar that used to exist outside the Gas Factory at Iakhou St, where in the place of stores selling hay, we now have bars, restaurants and alternative entertainment venues.

CONCLUDING REMARKS

This present essay, featuring research conducted in two of Greece's thematic museums (one of them a jewel of the Arcadia prefecture; the other, one of Athens' *hidden* gems) very much confirms a sense in which such museums in Greece have indeed successfully adapted to their new role. The two museums follow a different philosophy in how they approach visitors. One of them relies on mass tourism, and therefore experiences a large volume of museumgoers; the other, based outside of the capital, very much defines itself through specialized and thematic tourism. Yet this museum also sees a large number of visitors. Following a few shifts when it comes to the museum's attitude towards social responsibility, both institutions now offer a higher quality experience both in terms of learning and entertainment. These are shifts that demonstrate Greece's thematic museums harmonize with the SDGs, having enriched their educational activities with issues of concern to the 2030 Agenda and the key goals of sustainable development listed there, not least by showing films and hosting debates, conferences, and workshops. Their objective remains to keep the public and local society informed. As museums open up to society even more, they also benefit in financial terms. Actions focusing on the environment, and to fighting against poverty and inequality, aimed at the creation of safe neighborhoods and cities, more tolerant and sustainable: these, are actions that are also of interest to museumgoers, that might draw in tourists and lead to overall increase in attendance. This increase in visitors and museums' promotional campaigns not only benefits a museum's own finances but also the wealth and wellbeing of the surrounding area. Combined benefits are evident in the case of thematic museums and include: an increase in the value of land, more investment, entrepreneurship and new job opportunities. A sustainable, thematic museum tourism develops in the light of the protection of the social, economic and cultural environment of a given region and by securing that region's conservation over time. The two thematic museums considered in this essay are typical examples of the potential for an area's economic regeneration. One hopes that very soon all Greek thematic museums will harmonize their operation and their marketing plans with the key issues relating to the 2030 Agenda on sustainable development.

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