# Animal Extinction in Greece and the Role of Environmental Education in Primary School

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## Introduction:

The purpose of this study is to evaluate environmental education regarding animal extinction in Greece and propose a campaign that will aim to increase environmental awareness among primary students in the private sector. Earth is experiencing a dramatic environmental change. In the duration of 44 years, human actions have managed to reduce 60% of the wildlife populations (60 % of the Vertebrates Animals Have Been "Lost" in Less than 50 Years, 2018). Human actions affect and destroy the ecosystems and they cause biodiversity loss. They destroy the natural habitat of animals and hunt animals that are protected by law, thus causing them to extinct. Furthermore, the covering of lands, agriculture practices, pollution of ecosystems, and lifestyle choices all lead to animal extinction. Since in Greece most of the species that are threatened with extinction are by human actions, this shows the need for a better education plan. Finally, this paper firstly describes the methodology, significance of the study, literature review and description of the issue in Greece and secondly it proposes activities and interventions that can be applied in the private primary schools in Greece.

## Methodology:

The focus of this thesis is about animal extinction in Greece and the role of Environmental Education in primary schools. The data and graphs collected for this study were from secondary sources, reports, and articles from "The Red List of Threatened Species in Greece," the websites of Greenpeace, WWF, Arcturos, Zanteisland, and National Marine Park of Alonissos. The reasons these organizations were chosen is because they have conducted several studies and are devoted to the protection of endangered animals. Moreover, the book "The Red List of Threatened Species in Greece" written by the Hellenic Zoological society, in 2009, provided important data and information about all the endangered species in Greece. Furthermore, the IUCN Red List of Threatened Species website and system provided a more objective and explicit framework of the classification of endangered species. This system provides updated data of all the endangered species in a global framework and assisted to identify and measure some of the animals that face extinction in Greece.

Numerous human actions have resulted to the extinction of many species and in the pollution of the environment. For this reason, the educational environmental campaign that was created in this paper aims to try and change the existing negative attitudes towards the environment and increase environmental awareness in primary school.

## Significance of the Study:

According to The IUNC red list of threatened species there are more than 23,000 species that are facing extinction. Unlike previous catastrophic disasters that caused mass extinction, like volcano eruptions or asteroids, the current crisis that earth is facing is mainly caused by human actions (The Extinction Crisis, 2018). Animals are threatened mostly because of the change in plant productivity, geographic location, the covering of lands, hunting practices, and human pollution (Davidson et al, 2017). The last 500 years more than 1,000 different species have gone extinct, and this number does not include the hundreds of animals that went extinct before scientists could discover or describe them (The Extinction Crisis, 2018). Human lifestyle has affected the planet, biodiversity, and ecosystems in a tremendous way.

Consequently, the above phenomenon shows the need for a better educational program. Firstly, the ones who lack awareness are the students. Even though, school books in the Greek educational system have special programs, activities, and books that are related with environmental problems, they are rarely discussed in the school context (Boubonari, Markos & Kevrekidis, 2013). It is significant for the students to engage in creative learning. In other words, students should not be taught by the traditional methods of teaching that involves no interactive engagement. It is very important that the environmental programs in schools must engage students to think creatively and act (Dimopoulos & Pantis, 2003). Consequently, the Environmental Education program should help students to shape their attitudes, concerns, and behaviours through creative learning and create a strong foundation where all students show the same respect for the environment. On the other hand, it is not only the students who lack awareness but also the teachers. For example, in 2013 a study showed that Greek teachers often

misunderstand various environmental issues and have limited knowledge on environmental issues (Boubonari et al., 2013).

As a result, this signifies the need for actions to be taken and for the creation of a stronger environmental educational plan from a young age. Since, the lack of environmental education in Greece is so evident, the smallest act can contribute towards improvement. For this reason, this study focuses on animal extinction in Greece and the role of environmental education in primary school. The purpose of the campaign that was created on this study, focuses mainly on how to effectively target students in primary schools and help them increase their environmental awareness in the context of the environmental education.

## Literature Review:

The first introduction of the environmental education course in Greece started around 1977 by the General Secretariat for Regional Planning and Environment, in cooperation with the Center for Pedagogical Studies and Teacher Training (KEME) (Paraskevopoulos, Padeliadu, & Zafiropoulos, 1998). This happened because a lot of issues started arising during the 70s (Paraskevopoulos, Padeliadu, & Zafiropoulos, 1998). However, environmental protection as well as education in Greece have improved comparing to previous decades. (Paraskevopoulos, Padeliadu, & Zafiropoulos, 1998). In Greece, there are several assumptions on how an educational system should work. One of these assumptions is that firstly, if people know about the problem, they will know how to protect it and then act. Secondly, is that schools should take responsibility for educating students properly about environmental problems. Finally, that environmental education should be a part of the school's program (Paraskevopoulos, Padeliadu, & Zafiropoulos, 1998).

Environmental education in schools is the fundamental principle for creating awareness and building positive attitudes towards the environment (Michail, Stamou & Stamou, 2006). Children worldwide form behaviors, attitudes, and acquire knowledge towards the environment through the school program and not only through specific environmental projects (Michail, Stamou & Stamou, 2006). Therefore, this indicates that by having only a course in the Greek educational program does not help the students to acquire and form environmental awareness. Especially, in Greece where environmental education is only a part of the natural science course (Michail, Stamou & Stamou, 2006). The environmental education in schools must set and shape environmental social constructs that will help students acquire a more sustainable lifestyle.

Several studies have been conducted on teachers' knowledges about several environmental problems like the greenhouse effects, biodiversity, and acid rain. These studies showed that teachers confused or could not differentiate the causes and consequences of the different environmental issues (Michail, Stamou & Stamou, 2006). If the teachers are not properly educated about the environmental issues, it will affect the knowledge that will be transmitted to the students (Michail, Stamou & Stamou, 2006). Hence, the students will not be able to be properly educated or form positive attitudes towards the environment. For example, a study in 1999 investigated the knowledge of the students for the chemical composition of the ozone layer depletion between Greek and UK students (Michail, Stamou & Stamou, 2006). The study revealed that the Greek students were not able to properly identify the correct chemical composition of the ozone layer depletion, but on the other hand the UK students identified immediately (Michail, Stamou & Stamou, 2006).

People nowadays have the knowledge to understand the causes, contributions, and effects on several environmental issues, but it is in the decision of the person whether they contribute to the problem or solution (Fahlquist, 2009). According to social constructivism theory, knowledge is something constructed within a social context (Gaytan, 2013). This theory defines how people view a situation and how they understand it on their own way (Gaytan, 2013). Additionally, the process of learning within social constructs occurs through active and constructive process (Gaytan, 2013). When referring to school material and assignments the constructive process occurs through discussions and creative projects, and not through the traditional ways of teaching (Gaytan, 2013). It is important for teachers of environmental education to shape and build environmental social contrasts for the students. Educational innervations can easily improve the environmental behavior of people

(Dimopoulos, Paraskevopoulos, & Pantis, 2008). Children gain knowledge and shape attitudes from a young age, and it is very important that teachers define the social constructs of students for a more sustainable future that will prevent environmental disasters (Dimopoulos et al, 2008).

## Description of the Issue:

Humans and nature are closely and interpedently connected (Paton & Johnston, 2017). They constantly interact with each other, affect each other, and depend on each other in a relationship of constant change (Paton & Johnston, 2017). For many generations, people have managed to live in balance and harmony with the environment, without affecting and compromising future generations (Weeratunge et al, 2000), but nowadays humanity is experiencing a crisis. People affect and destroy nature in a tremendous way (Paton & Johnston, 2017). This infectious relationship has resulted to the occurrence of extreme natural events that extinct animals and destroy ecosystems (Paton & Johnston, 2017). According to the Millennium Ecosystem Assessment in 2005 and the Fourth Assessment Report of the Intergovernmental Panel on Climate Change in 2007, humans are dramatically transforming and harm the environment that damage the future of children and humanity (Norgaard, n.d.).

Additionally, the growth of human population, technology, and overconsumption have exceeded the planets ability to support people (Feeney, 2007). As a result, the planet is facing several problems like climate changes, plastic pollution, overfishing practices, overexploitation and agricultural activity, chemical pollution, deforestation, ocean dead zones, collapsing fisheries, death of coral reefs, and animal extinction (Feeney, 2007; WWF & Zoological Society of London, 2018). Furthermore, every species evolves and tries to survive on its own in an area under specific circumstances. Those circumstances are related to the temperature, the plants, the availability of food resources, and other animal species (Climate Change Causes Habitat Loss and Species Extinction, n.d.). When these circumstances change due to human actions, then these animals the either immigrate or face extinction.

One of the major causes of the constant decline of the global environment is the unsustainable patterns of production and consumption (Benders, Moll & Nijdam, 2012). Agriculture practices cover at least 13 million hectares of forest lost each year (Clay, 2004). Human actions impact fresh water and marine habitats, due to the agrochemicals used in the fields that end up in rivers, lakes, and sees by runoffs (Clay, 2004). The widespread of modernization agriculture and the techniques that farmers use in poor countries, focus primarily on how their production will be increased to satisfy the needs of the market, and not on how to achieve and adapt the most sustainable way (Makal et al, 2017). The living conditions of the farmers together with the environmental problems create numerous problems in society and environment (Makal et al, 2017).

Climate changes and land-use patterns result to biodiversity loss (Dimitrakopoulos et al, 2010). Deforestation is another human action that destroys nature. Furthermore, illegal hunting of wild animals leads to further extinction, such as the Tasmanian tiger, and industrialization together with human-made disasters led to environmental pollution (Ahluwalia & Energy and Resources, 2015). Such disasters include the nuclear bombing of Hiroshima and Nagasaki, Chernobyl and Fukushima, and the oil spill of BP in the Gulf of Mexico (Ahluwalia & Energy and Resources, 2015). One more example is the extraction of oil in Canada where the fossil fuel lead to more environmental problems (Goldenberg, 2012).

## Animals that face extinction in Greece:

According to "The Red List of Threatened Species in Greece" they are many animals that face extinction, even though there are animal sanctuaries devoted to the protection of these species (2009). Moreover, for the purpose of this study, it is important to identify the categories of threatened species as stated by the IUNC red list of threatened species.

| Category | Abbreviation | Description |
|---|---|---|
| EXTINCT | (EX) | Species that belong to this category have lost the last individual and no longer exist. |
| EXTINCT IN THE WILD | (EW) | Species that survive in captivity, cultivation or in naturalized populations and no longer exist in the wild. |
| CRITICALLY ENDANGERED | (CR) | Species that are facing a highly great risk of becoming extinct in the wild. |
| ENDANGERED | (EN) | Species in this category have a high risk of extinction in the wild. |
| VULNERABLE | (VU) | Species in this category meet any of the criteria and are considered to face extinction in the wild. |
| NEAR THREATENED | (NT) | Species that belong in this category have been evaluated against the criteria, but it is close in qualifying for a threatened category in the near future. |
| LEAST CONCERN | (LC) | Species that have been evaluated against the criteria and are considered least concern. |
| DATA DEFICIENT | (DD) | Species that belong in this category have been studied but appropriate data on abundance and/or distribution are lacking. |
| NOT EVALUATED | (NE) | Species that have not been evaluated against of any of the criteria. |

Some of the animals that are facing extinction in Greece and are under protection are the following.



**Golden Jackal:** is threatened with extinction due to the intense agriculture practices in low areas, the destruction of wetlands, and the expansion of houses in the coastal areas (Jackal, n.d.; "Conservation Action Plan", 2004).



**Red Deer:** The population of the red deer is located at the Parnitha Mountain and in the Rodopi Mountain with approximately 20-40 individuals, and it is listed as critically endangered mainly due to poaching and hunting (Bennett, 2002; Karaiskou et al, 2014; Red Deer, n.d.).



**Black Vulture:** is the largest bird of prey in the world (Poulakakis et al., 2008). This species is globally listed as near-threatened and their global population is estimated from 7,200 to 10,000 individuals (Skartsi, Elorriaga, Vasilakis & Poirazidis, 2008). In Greece, the black vulture stopped breeding in the Olympus Mountain leaving the Dadia National Park the stronghold of this species (Skartsi et al., 2008).



**Chamois:** are big mammals mostly located in high mountains of Greece and are considered to be the most endangered species in the Balkan due to degradation of habitat by overgrazing and poaching, with a population of 700 individuals (Chamois, n.d.).



**Brown bear:** is facing extinction, because of human prosecution and environmental degradation (Tsaparis, Karaiskoub, Mertzanisa & Triantafyllidis, 2015).

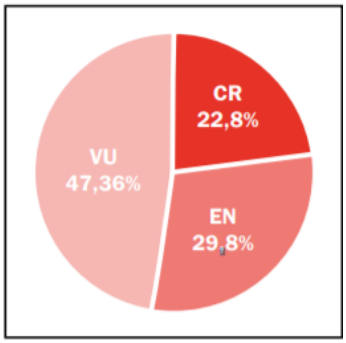


**Monk Seal:** The National Marine Park in Alonissos (Sporades), is one of the few parks in the world devoted to the protection of the Monk Seal (Trivourea, 2011). In 2011, the Monk Seal was considered one of the most endangered animals on the world, with less than 600 individuals (Trivourea, 2011). Human actions such as fishing practices, habitat destruction, and the pollution of the sea with plastic bags have led to the extinction of this species (Trivourea, 2011; Pierce, 2011).



**Carreta Carreta Turtle:** The National Marine Park of Zakynthos in Greece, is devoted to the protection of the turtle (Schofield, Hobson, Fossette, Lilley, Katselidis & Hays, 2010). After many years that the turtle was considered endangered, in 2015 it was listed as vulnerable (The IUCN Red List of Threatened Species, n.d.). But they are still facing danger and they might be listed again as endangered very soon, because they are often caught on fishing gear and they can get killed or drown from plastic pollution (Gatsis, n.d.)

According to the book "Red List of Threatened Species in Greece" written in 2009, 171 out of 422 vertebrates' species and 297 out of 591 invertebrates' species are in danger (Hellenic Zoological Society, 2009). Even though, the data available right now is from a decade ago, the findings of the study played a very important role to understand the situation in Greece. Looking at the data from the first graph the vertebrate's animals are categorized as:




22,8 % (39 species) are critically endangered,

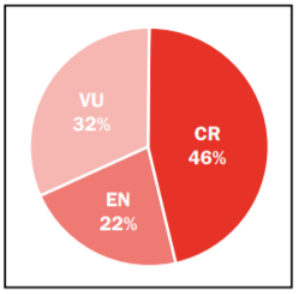
the 29,8% (51 species) are endangered and,

47,36% (81 species) are vulnerable (Hellenic Zoological Society, 2009).

Out of all the 171 vertebrates' species that are in danger, it is noticed that fishes and birds are the species that face more danger (Hellenic Zoological Society, 2009). This is very important because it can be seen that human actions like overfishing and hunting practises have a huge impact in the ecosystem.

| Categories | Critically Endangered | Endangered | Vulnerable |
|---|---|---|---|
| Sea Fish | 5 | 4 | 5 |
| Freshwater Fish | 14 | 12 | 23 |
| Amphibia | 1 | 2 | 3 |
| Reptiles | 2 | 4 | 6 |
| Birds | 17 | 17 | 31 |
| Mammals | 3 | 12 | 13 |
| In Total | 39 | 51 | 81 |

Acoording to the red book  the invertebrates species that were studied belong only to a small portion of the invertebrates animals that exist in Greece (Hellenic Zoological Society, 2009). The study focused primarly on endemic species and this raises a lot of concern because if people do not take any procation a lot of the invertebrates species could extinct (Hellenic Zoological Society, 2009).




As it can be seen from the graph 46% of the population that were studied are critically endangered, 22% are endangered, and finally 32% are vulnerable (Hellenic Zoological Society, 2009).

Moreover, comparing the situation of endangered species in Greece with other reviews from IUNC or Europe, it is noticed that in Greece 61% of the species who belong to the critically endangered category, in other countries are listed to lower categories (Hellenic Zoological Society, 2009). For example, the Jackal population in Bulgaria has started to increase, and in Europe the Jackal species is considered vulnerable, whereas in Greece their population is decreasing dramatically and they belong to the critically endnagered category (Hellenic Zoological Society, 2009).

Furthermore, comparing again Greece with other counntries it is noticed that the 52% of species in Greece belong to the endangered category, whereas globally it is only 38% (Hellenic Zoological Society, 2009). There is a 14% diffrence between Greece and the rest of the world. This number signifies the curent environmental problems that Greece is facing. Greece is only a small country with a small population and yet the impact of the people on the environment is significant. A more recent example happened in the summer of 2018 in Ilia (Peloponnese), where a group of people with more than 250 bikes started motocross races on a beach that was under protection for the protection of the carreta carreta turtle (“Ilia:

Motocross races," 2018). This beach is considered to be a valuable ecosystem that hosts every summer more than 1,000 nests ("Ilia: Motocross races," 2018). All the examples mentioned above a lack of enviromental awareness and education among Greeks. It is also important to mention that there are a few species in Greece where their population is increasing comparing to the rest of the world, such as the turtle Testudo graeca, the snake Elaphe quatuorlineata, and the lizard Podarcis milensis, but these examples are limited (Hellenic Zoological Society, 2009).

All these problems are leading to the "sixth mass extinction"; where the fifth mass extinction wiped out dinosaurs (Feeney, 2007). A growing body of evidence show that animal extinction rates are higher than ever before (Ceballos et al., 2015). According to WWF in the duration of 44 years, human actions have managed to reduce 60% of the wildlife population ("60 % of the Vertebrates Animals", 2018). And this is due to the lack of environmental education among citizens that result to the pollution of the environment and animal extinction (WWF & Zoological Society of London, 2018). WWF advocates that the best solution for all these problems is education, together with governmental, institutional, and citizen agreement (WWF & Zoological Society of London, 2018). Only, when these four elements work together then people could learn how to be in harmony and respect nature.

## Campaign

The long path towards sustainability requires changes in people's lifestyle. So, the role of Environmental Education in this case is a crucial one. It is very important to take into consideration the current financial problems that Greece is facing and create a campaign that requires a low budget. For this reason, the Environmental Education campaign that was created in this study with the title "Environmental Education is the key for a more sustainable future" heavily depends on the willingness of the teachers in primary schools to adapt a more effective and creative educational program. It is very important that students should engage with various activities inside and outside of the school premises that will aim to change the environmental social constructions, increase environmental awareness, and change the attitudes of the students. Finally, this environmental educational campaign addresses Greek primary schools in the private sector.

### Objectives:

- Educate students about the reasons why animals are facing extinction in Greece and how they can prevent animal extinction.
- Change previous negative environmental social constructions of primary students to positive and sustainable social contractions.
- Create a campaign based in creative learning and executions that will increase communication skills, increase environmental awareness, and change the behavior of the students.
- Help students to adopt a more sustainable way of living through the creative educational interventions that will aim for the better protection of the ecosystems and environment.

- Challenge students to do their own research about environmental topics and encourage them to come up with creative ideas.

### Target audience:

The campaign created for this study is targeting students from the first grade until the six grades in private primary schools in Attica, Greece. This campaign is proposing merely activities that can be executed by the EE teachers in the private sector where they have more teaching hours comparing to the public schools, and private schools allow activities and field trips with the permission of the school (The Greek Ministry of Education, Research and Religious Affairs, 2017). Moreover, public schools have a more complicated system and that makes it more difficult for a program like the one proposed in this paper to run with no problems. For example, in the Olynthoy school in Chalkidiki the teachers took the initiative to include in the EE program a vegetable garden where students planed their own garden and learned how corporative business works (Petroy, 2018). Unfortunately, the vegetable garden was shut down because the garden was illegal, and the school had to pay taxes in the government and a fine of 800 € (Petroy, 2018).

Since, 50% of the students in the private sector are attending a school in Attica (Valassi, 2015), it is a good of opportunity for this program to start from Attica and then expand in other cities and regions. Even though Greece is a small country the private schools are considered to be a privilege area to study the social formation of educational strategies (Valassi, 2015). For all the reasons mentioned above this campaign is referring to teachers who work on the private sector and have willingness to adapt a more creative approach on their teaching techniques.

Finally, this campaign is targeting children aged from 6 to 11 who attend private primary schools. Children at this age respond and learn better when the activities are fun and creative (Winters, 2018). It has been proven that creative and imaginative activities early in life could be resourceful and resilient for children when they are faced with barriers or obstacles in adult life (Winters, 2018).

## Actions:

### Actions for Students:

The following actions refer to all students of primary school and aim to change the negative environmental social constructions to positive practices that will lead to a more sustainable future. The interventions are divided into long term and short-term activities, and the scope of this campaign is to propose tactic approaches, activities, and exercises that could be incorporated in a broader agenda.

#### Short-term activities:

The following eight short-term activities aim to change the environmental social constructions through creative activities and the engagement of the students.

1. Spread the love event: At the end of each year, every class will have to write a poem or a song about how people could help the environment and animals. Each year the teacher together with the school will decide and announce to the students the topic, which will be the similar for all classes. Participation is mandatory, and students have to express themselves through the song or poem. Moreover, music teachers will be there to guide and help students with the melody and rhythm of the pieces. Finally, at the end of the year students will have to sing or read their work in front of the schools and parents.

2. Create short field trips where students and teachers can engage with volunteering work. For example, trips where students can clean garbage from beaches, forests, parks, or a close area from the school. Because this campaign is addressing small

children the school should provide the appropriate equipment and supervision for such trips.

3. Presentations for the animals that face extinction: In the context of the EE course in primary schools, students must draw animals of their choices and write a small list that describes the animal. Students must research and create a brief list of bullet points that are relevant about this animal (their color, what do they eat, population, why they are threatened etc.) and the reason why they choose it. Students will have to present the animal that they have chosen in front of their classmates and teacher. With this way students will create communication skills that will be very helpful for future use and learn how to research for information dependently.

4. During the context of the EE course students should be taught and advised how they can plant their own plant. All students will have to plant their own plant and take care of it. Together with the plant student will need to submit a report where they will describe how did they take care of the plant and if they faced any implications. At the end of the school year students will have to present their work in class and students will be graded for their hard work.

5. Create “friendly” contests where every class will have to create a creative group project, relating to environmental problems or animal extinction. At the end of the year students will have to present to the school (students-parents-teachers) their projects, and the winning project with the most creative project would be placed as an

exhibit inside the school premises for one year (until the next competition). With this way students will have the change to engage with interactive group work and increase their creativity.

6. Every year, each class will have to come up with a poster idea that promotes a more sustainable way of living. Students will have to challenge themselves to come up with a creative idea to promote environmentally friendly actions, like close the tap will washing your hand or not to throw garbage into the sea etc. Teaches will provide students with A3 blank poster and colorful pencils and students will have to paint and create their own poster. Depending on the content of the poster and message the posters will be hanged all over schools where students can get exposed to the message every day.

7. Paperboard of wishes: Each class at the begging of the year will place a paperboard on the wall and all students will have to write a wish for the environment. With this way students can see the wishes of all students and start taking small steps to achieve their own wish and the wishes of their classmates. Additionally, at the end of the year teachers will have to place another paperboard right next to the other one, and students will have to write what they did to achieve their wishes. This activity will help students to express their concerns through wishes and help them set a clearer goal on how to help the environment.

8. Bazaars inside the school premises where students will create handcraft products and paintings and sell them for charity purposes. The money collected from the bazaar will be donated to sanctuaries devoted to the protection of extinct animals in Greece. With this way students will both engage to the making of creative activities and learn the importance of helping others in need.

### Long-term activities:

The following seven long-term activities aim to increase environmental awareness of the students and change environment social constructions through research, fun activities, and creative projects.

1. Debates between students: Every month students will be provided with a new topic from their teachers that has to do with an environmental issue. Every class should be divided in two groups and collaborate to find information about their topic. At the end of each month students will have to defend their side of the debate in class. The debates will help students to understand different topics in-depth, see both sides of the problem, make the right decisions in their daily lives, learn how to work in a group, and develop critical thinking.

2. Board games for educational purposes:
   a) **Animal Detective Game**: Teachers will provide students with 4 different animal toys of their choices and students (individually) through their own knowledge must fill a card paper with all the information that they know about the animal. Then students will have to be divided in to 4 groups (the groups are arranged according

to the same animal) then the teacher will give the teacher 16 facts (4 facts per animal). Then students will have to collaborate with each other and share the information that they already know about the animal (this information is already written in the card) in order to find the correct 4 facts that refer to their animal. The first team that will identify all the questions correctly will win a small price e.g. stickers, candy, chips etc., together with a certificate that they won. This activity can be done on a monthly basis, because through creative engagement students learn more about the nature of animals.

**b) Trivial Pursuit-Animal Edition**: Trivial Pursuit is a well-known card game where the winners are determined by the ability of the players to answer correct questions. For the purpose of the EE program students will have to play in class a slightly different version of the original game which has to do with popular culture. This time all the questions will have to do with the extinction of animals and environmental problems that Greece is facing. The game will be created with the collaboration of teachers in their free time or with the collaboration of the students.

**c) Guess the Cartoon**: Teachers will provide to students a list of animal cartoons and students will be asked to identify it and share with the class their knowledge regarding the animal.

**d) Animal Taboo**: Taboo is a word guessing board game. For the EE course students will be provided with cards with the names of animals that face extinction and 5

forbidden words that students are not allowed to say. Classes will be divided in two groups and the winning team will get rewarded.

3. Teachers should create several PowerPoint presentations about the pollution of environment concerning garbage. The school can corporate with an NGO in Greece like WWF and Greenpeace, and kindly ask them to provide them with presentations for environmental issues and animal extinction. Moreover, students will be asked to bring a piece of garbage in class that they often use, and teachers must explain to the students the impact of that garbage on the environment. With this way students will build positive behaviors and understand the effect of throwing garbage on the environment.

4. During the context of the EE course teachers should prepare PowerPoint presentations that will educate students how they can adopt a more sustainable lifestyle. The presentations will instruct and train students through tips on how to save water, recycle, and replace one plastic use items with reusable ones. Teachers should also introduce to the students the zero-waste lifestyle so that they can teach students how to minimize unnecessary plastic waste. Finally, teachers should ask students ($4^{th}$-$5^{th}$-$6^{th}$- grades) to create presentations or info-graphs with tips on sustainable lifestyle, where teachers together with the students will print and place them throughout the school premises as posters.

5. Every grade should create their own “newspaper”. Student who will volunteer and participate in this activity will get an extra bonus in their environmental/ science courses. The students will have to draw or write something that they learned and introduce it in their own creative way. This means that students can either draw something, write something that they learned (facts), express their opinions on several environmental problems or animal related extinction, or write a small paragraph of something that they did and are proud of regarding the environment. This “newspaper” will be published inside school perimeter once per month and students can get copy and a certificate for participation and creativity.

6. Blog: The teachers must create a blog where students can write blog posts regarding animal extinction or environmental issues. The blog can be used also as an alternative way to publish for the newspaper mentioned above.

7. Broadcast: Every day students from the 3rd until the 6th grade will have to announce a fact or news concerning animals and the environment. Students will be selected alphabetically and every morning a student will have to announce and share with the school the news or facts. This will help students to research and take initiative on their own and improve their communication skills for future advancement.

## Actions for Teachers:

Since in Greece there is a confusion and lack of knowledge about certain issues among teachers, it is important for this program to also aim and increase environmental awareness among the teachers. This will be achieved through the proper education of teachers with the collaboration of the school, and NGOs that are devoted to the protection of the environment.

### Short-term actions:

The following activity aims to properly educate teachers, so that teachers can provide the means to the students and increase their environmental awareness.

1. With the assistance of an NGO, the school could create for free teaching guides addressing teachers. Since in Greece teachers confuse and misunderstand various environmental issues it is very important to find a solution. This way the school together with the NGOs they can create teaching guides and meetings that aim to clarify any questions and misunderstanding for the teachers.

### Long-term actions:

The following two activities aim to help teachers locate teaching materials and clarify any questions that the teachers have.

1. Seminars that will educate teachers about the environmental problems that Greece is facing. Since there is a lack of environmental education among teachers, the government should have to create seminars that will aim to properly educate teachers

regarding environmental issues. It is very important that both students and teachers are educated properly for the achievement of a greater and more sustainable future.

2. Online Platform: With the collaboration of NGOs the schools could create an online platform were both the NGOs and teachers can upload information, article, activities, PowerPoint presentations etc. that will aim for the better educations of the teachers. Since in Greece there is a confusion and a lack of environmental knowledge, it would be helpful for teachers to find valid information to study and use in class. Finally, since this campaign is addressing teachers that have the willingness to adapt a more creative approach on their teaching techniques, it would be more effective, less time consuming, and easily accessible for the teachers to have access to all these materials through the platform.

## Actions for Schools:

### Long-term actions:

The following long-term actions suggestions refer to the government and schools on what they can do to provide the means for a better environmental education program. These are important actions that must be done to assist and enhance the purpose of this campaign.

1. Install recycle bins inside the school premises and class rooms where students can have easy access. It is very important for schools to install recycling bins in schools because it is important for the students to have access to recycling bins inside the school to encourage a more sustainable way of living. If students do not have access to recycling bins, all the effort of the teachers will be wasted.

2. Reduce plastic: Schools must replace plastic straws, cups, forks etc. with biodegradable alternatives. It is important that teachers focus on the education of students about the impact of gums and plastic in the environment and help them adopt new sustainable behaviors. This could be achieved through the proper education of the students and through direct engagement. Students must collect gums and plastic trashes and "donate them" to special organizations that create cups for coffee, benches, boots, etc. For example, Coca Cola with the campaign "Print Your City" started printing 3D benches from plastic in the city center of Thessaloniki (Thessaloniki: Value for Recycling Plastic, 2018). So, it is a good opportunity for students to contribute to actions like the

one mentioned about and help them understand the importance of recycling and plastic pollution.

3. Moreover, schools should provide students and faculty members with reusable bottle waters and install drinking fountains inside the school premises. With this way the use of plastic bottles could decrease dramatically, and it could encourage a more sustainable way of living, not only for the students but also for family members, friends, teachers, and school stuff.

4. “Train the Parents”: It is very important that students should take initiative in their homes to recycle and save water. Kids do not hear their teachers or parents all the time, they imitate them. So, it is very important that parents should be highly encouraged to adopt a more sustainable lifestyle. Teachers can create short meetings that explain to the parents what they can do to eliminate waste and increase their environmental awareness. Finally, the school can invite a representative from WWF or Greenpeace and have a meeting with the parents to motivate and educate the parents to adopt a more sustainable lifestyle.

## Expected Outcome:

These interventions are expected to change the environmental social constructions of the students towards to a more sustainable future. The synergies among all the constituents improve the environmental sensitivity and resulting behaviors.

## Conclusion**:**

The planet is facing an enormous threat where more than 60% of the population of animals' face extinction. Human actions destroy, harm, and effect the environment that has resulted to the occurrence of extreme natural events that extinct animals and destroy ecosystems. According to the Living Planet Report 2018 the solution for all these problems comes through education, government legislation, and citizen agreement. Moreover, in Greece there is a lack of environmental education that has resulted to the extinction of animals and the pollution of the environment. It has been shown that both students and teachers in the Greek educational system lack or confuse environmental related issues. For this reasons, the campaign created in this study aims to change environmental social constructions, increase environmental awareness, and change behaviors among teachers and students in the private primary sector.

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