LIVE ON THE ISLAND

Erasmus+ KA2 Capacity Building in the field of youth

Ottovolante Sulcis (Italy) | Udruga Prizma (Croatia) | Community Forests Pemba (Tanzania)
Morobe Development Foundation (Papua New Guinea) | Teatro Metaphora (Portugal)
Altera Vita (Greece) | CEMEA (Martinique - France) | SYAH Cabo Verde (Cabo Verde)

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Cabo Verde: Municipal Government of Ribeira Grande of Santo Antão, Ministry of Agriculture and Environment Delegation of Ribeira Grande of of Santo Antão, School of Agricultural Sciences and Technologies of the Technical University of the Atlantic, National Institute of Sports and Youth

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Introduction

Dear Readers,

this publication has been made possible through the dedicated efforts of youth workers who actively participated in the LIVE ON THE ISLAND project over the span of two years. Operating within the ERASMUS+ KA2 - Capacity Building in the field of youth Programme, these individuals demonstrated exceptional skills in engaging young people and institutions. They assumed pivotal roles as researchers, delving into environmental issues, identifying key characteristics, potentialities, and most importantly, critical challenges requiring careful examination.

The initiative commenced with the collaboration of 8 organizations and associations: Ottovolante Sulcis, Udruga Prizma, Community Forests Pemba, Teatro Metaphora, Altera Vita, Syah Cabo Verde, Morobe Development Foundation, and Cemea Martinique. These entities are active on the following islands: Sant Antioco (Sardinia, Italy), Iž (Croatia), Pemba (Tanzania), Madeira (Portugal), Syros (Greece), Santo Antão (Cabo Verde), Papua New Guinea, and Martinique. Together with these partners, an endeavor commenced, aspiring to establish a method of observation grounded in awareness, knowledge, scientific research, and collaborative engagement with local communities and institutions. The aim was to address critical environmental challenges and actively seek solutions and alternatives necessitated by climate change.

This publication encompasses insights gleaned from the interventions in these islands, drawn upon a shared framework. It documents community experiences, best practices, local activities, and tools aimed at promoting awareness of the project's objectives and outcomes.

From the inception, the intent was to craft a publication that not only encapsulates pertinent information regarding the issues under scrutiny and the research findings but also offers resources applicable within and beyond the geographic contexts involved. It included the experiences gained through the Training Courses in Veli Iz, Croatia, and Santo Antão, Cabo Verde, as well as the kick-off meeting in Sant Antioco and the evaluation meeting in Pemba, Tanzania, organized by Community Forests Pemba, where the final version was discussed, as a beacon of hope for a future characterized by environmental consciousness and proactive social intervention.

Warmest wishes to all our readers,

The "LOTI" team
2023

About LIVE ON THE ISLAND project

The premise of the project is the awareness that protecting the environment and conserving the resources of our planet represent a challenge that can no longer be avoided: today, the world is radically different choices that are different from those made in the past, far from the current production model. As is known, islands are particularly affected by environmental degradation and climate change, due to a more fragile ecosystem and geographical barriers that often lead to conditions of particular socio-economic vulnerability. For the island communities, therefore, "sustainability" and "resilience" are essential characteristics to combat the degradation of their territory and consequently depopulation, youth emigration, and the transformation of the territories into "tourism colonies" with important social consequences and environmental. In these contexts, we therefore consider the promotion of an environmental education that is configured as a continuous process of learning ways of living with a rapidly evolving nature due to climatic and economic factors to be particularly important. Young people have a leading role in promoting different models of consumption and production: the development of their awareness of the environment and their learning of knowledge, values, attitudes and practices of sustainable development through the exchange of experiences is therefore of primary importance. Faced with this, due to important geographical and socio-economic obstacles, many young islanders enjoy limited mobility and exchange opportunities.

To increase the quality and impact of their projects on the environment and the communities in which they are integrated, organizations and operators active in the youth sector need continuous theoretical and practical updates in the field of environmental protection, which is in itself rapidly evolving. In this context, the aim of the project is to provide organizations and youth workers with a set of theoretical and practical tools to develop environmental education strategies aimed at young people that are effective and relevant to the specificity of the islands, through the exchange of methodologies between similar realities and experiential learning based on the practical application of notions. The starting point will therefore be the development of a common reflection on how the currently hegemonic production model affects ecosystems and the life of island communities, and on possible strategies for promoting more ecological and equitable economic models. During the follow-up phase, support will be provided to the practical application of the concepts learned in projects for the promotion of education and environmental sustainability in their territories. The main target group of the project are the youth, social and environmental workers of the partner organizations.

The main purpose of this project is to improve the skills and competence of youth workers, social and environmental operators, operating in the particular contexts of the islands and improve the quality of their work connected with the sustainability of the reference territories, projects and initiatives on the islands and increase the impact of the actions of the organizations involved.

The project aims to improve the skills of partner organizations, their staff and youth and environmental operators active on the islands and in particular:

- will strengthen the general knowledge and theoretical and practical skills of operators on environmental and sustainable development issues;
- provide them with study bases to understand the specific context of the island and its weaknesses;
- will indicate environmental monitoring strategies aimed at understanding the transformations of the territory and the critical issues;
- will experiment with non-formal education methodologies useful for involving young people;
- will increase the capacity of organizations to carry out actions and initiatives, the quality of the proposed activities, the impact on the territory and on the community, in the direction of greater sensitivity, information and aware behavior;

- will identify practical tools to be applied in individual contexts in order to act autonomously and to be able to direct local policies towards environmental protection issues.
- increase the capacity of organizations to collaborate with partners on an intercontinental level with reference to common theories and practices.

The project structure combines closely related activities as follows:

1. Kick-off meeting for country coordinators (Sant'Antioco Island, Italy);
2. First Training Course for youth workers, which includes study visits (Iž Island, Croatia);
3. Second Training Course for youth workers, which includes study visits (Santo Antao Island, Cabo Verde);
4. Local Practice Phase and Local Activities - Practice phase and local activities of youth workers: putting into practice the learning, methods and practices developed and tested in a series of initiatives, activities, workshops, meetings and seminars in the local community;
5. Final evaluation meeting - evaluation meeting with coordinators and some of the youth workers (Pemba Island, Tanzania)
6. Local dissemination and follow-up activities.

Project website: https://liveontheisland.eu/
Project platform: https://e-learning.liveontheisland.eu/

Project partners

Ottovolante Sulcis - Italy

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Ottovolante Sulcis is an association founded in 2010 and based in Sant'Antioco, with the aim of contributing to the cultural growth of the area's population, through the development and implementation of projects, workshops and vocational training courses, with a particular focus on artistic fields and their applications in the social and participatory fields. The association organises exhibitions, reviews, recreational and artistic-cultural events; it participates in calls for proposals from various bodies and institutions, and programmes and implements youth exchanges with European and non-European countries.

The association has launched its own activity to promote contemporary art and culture through a series of events at the Ottovolante Home Gallery, a place that began as a private home and has been transformed on several occasions into a centre for the enjoyment of art, and in other significant places on the Island of Sant'Antioco, both in the town centre and in the surrounding area.

Udruga Prizma - Croatia

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We are a community of creatives connected by shared dreams of a new world built on the foundations of peace, inspiration, and creativity. We believe that individual development of creativity is the first step towards realizing one's full personal potential. We create opportunities, actively participate in bringing about change, support innovation, and encourage dialogue among different opinions. By exploring tradition, we nurture heritage, and by discovering new ways of expression, we contribute to positive personal and social changes.

In Youth Work we encourage volunteering, self-organization, and quality leisure time for young people by providing basic spatial and material conditions for them. We conduct training for individuals working with young people and we provide a creative impulse to the development of rural communities.

Altera Vita - Greece

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ALTERA VITA is a Social Cooperative Enterprise of Collective and Social Benefits (SCE) based in Syros and the action area of the Prefecture of Cyclades.

The Cooperative was founded with the aim of responding with professionalism and expertise to the needs of care and empowerment expressed by people and communities. The approach of ALTERA VITA is based on participation, active citizenship, and reciprocity. The goal is the activation and the networking of the social and economic resources of the territories, promoting sustainable development and well-being of the communities.

In many projects, ALTERA VITA plays the role of activator of social resources and facilitator in the involvement of local civil networks. For the creation of welfare systems and services focused on the needs of the person, ALTERA VITA promotes co-projecting and networking of best practices.

SYAH - Cabo Verde

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SYAH Cabo Verde is a not-for-profit organization with headquarters in Praia, Cabo Verde, which provides specialized services in its areas of action and promotes projects aiming at the integral sustainable development of Cabo Verde and the cooperation with the Small Island Developing States - SIDS, of the Atlantic and Indian Oceans - AIMS region.

SYAH responds to the need for an entity that articulates AIMS region, brings together the voice of its people, and promotes integral sustainable development, through projects and services that encourage the creative economy in the green and blue sectors, with focus on young people, women and minorities. In Cabo Verde, SYAH CV began its journey in 2015 and was formalized in 2016. Today, it is a network with active members, both individual and collective, spread over the Cabo Verde islands and the diaspora.

CEMEA Martinique - France

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The CEMEA is a movement of people committed to practices based on the values of new education. CEMEA Martinique is an association and a training organization, working in the fields of youth, formal and non-formal education, social work, culture and international affairs. The aim of the association is to disseminate the principles of popular education.

CEMEA Martinique is active in several sectors including animation, social work, territorial education policy, training of school support staff, extracurricular activities, link between formal and non-formal education, culture, European and international relations.

Morobe Development Foundation - Papua New Guinea

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Morobe Development Foundation is a NGO established to carry out a wide range of activities, interventions and projects throughout Papua New Guinea.

MDF is made up of Professional Accountants, Engineers and Technical people who collaborate together and participate in Rural Development Activities.

MDF also carry out awareness using drama as a tool to disseminate information, carry out training for women, youth and community empowerment and carry out advocacy work to address any social issue that is impeding development in Papua New Guinea.

Community Forests Pemba - Tanzania

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Community Forests Pemba (CFP) is a Tanzanian local Non-Governmental Organization (NGO) established in 2007. Working alongside rural communities in Zanzibar, we promote resilient livelihoods that restore forests, foster gender equality, and improve income in communities already dealing with the negative effects of climate disaster. From spice forests to mangrove restoration, all of our efforts are guided by the communities that need them most.

Community Forests is growing ecosystem-based poverty reduction, gender equity, and climate security for communities across the Zanzibar Archipelago. Our work in Zanzibar is built on relationships of trust and respect, and the understanding that Community Forests Pemba and the community members are the experts. We prioritize a community-led approach, actively listening to and supporting community needs. The most resilient climate solutions come from the vast wealth of local knowledge and lived experience with the impacts of climate change.

Teatro Metaphora - Portugal

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Teatro Metaphora – Associação de Amigos das Artes is a non-profit association, which was founded in 2009 on Madeira island, Portugal. Since then, the organization develops cultural, educational, and environmental activities for the benefit of the community's development. The organization's activities are an essential part of the overall strategy for Madeira to be a creative community, and the organization itself a meeting point for innovation and change, aimed at strengthening the excellence of our island.

Experiences from the project

About local activities and actions
Study visits
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ABOUT LOCAL ACTIVITIES AND ACTIONS

Cabo Verde

Research on climate change impact using the CRiSTAL methodology

The SYAH Cabo Verde team visited several villages in Santo Antão Island to meet with local communities and understand how they consider that climate change is affecting their livelihoods. Through semi-structured interviews, focus groups and interactions with farmers, ranchers, fisherfolks and agroforestry workers, primary data was captured to be further analyzed with the experts and technical officers in the island.

The methodology used was the **CRiSTAL tool**. It was explained to the participants of the Training Course in Santo Antão, using non-formal techniques and experiential training in the field with local communities. Then, local participants started to practice it and visit some target communities in the island and when they were ready, the implementation phase of the research started. Finally, a summary was extracted to be included in this publication, as a result of the research work undertook in Santo Antão island.

The CRiSTAL tool was developed by the International Institute for Sustainable Development (IISD) as a project-planning tool that helps users design activities that support climate adaptation (i.e., adaptation to climate variability and change) at the community level. CRiSTAL stands for “Community-based Risk Screening Tool – Adaptation and Livelihoods”. It seeks to systematically assess the impacts of a project on some of the local determinants of vulnerability and exposure, so that project planners and managers can design activities that foster climate adaptation. More information available at: https://www.iisd.org/cristaltool/

Chã das Furnas

Chã das Furnas is a predominantly agricultural community in the mountains to the west of Sinagoga. Chã das Furnas lies at an altitude of between 250 and 600 meters. The majority of its population lives in the area of approximately 250 meters above sea level. The higher areas of the community are mainly used for farming.

In this village, a conversation was held with Mr. Pedro Fonseca, who noted the following:

- Climate change causes the soil to heat up and burns the leaves of plants, which are more vulnerable to pests because they are more sensitive, and the ground is also unable to retain water for long;
- In terms of production, we are getting worse and worse. For example, a tomato plant has trouble bearing fruit, many flowers end up falling to the ground before the fruit has even formed;
- Excessively hot soil makes it difficult for seeds to germinate and we need to provide shade for them to germinate. (This technique consists of placing dried plant leaves on top of the place where the seed is planted so that it can grow).
- In five years' time we will certainly be worse off and the future of traditional, irrigated and rainfed agriculture is uncertain. Vegetables will be the most affected farming crops here, as they are more fragile in terms of production. The main cause of this is the excessive heat;
- 20 years ago we didn't know about climate change, the climate was temperate, the rains fell during the "azágua" season (the humid season, which used to run from July to October, when rain is normally expected in Cabo Verde). "The world was a better place. Our agricultural production has halved in 20 years. Our feeling as farmers is that climate change is going to wipe out humanity."
- I think that a lot could be done to adapt to climate change, and that action should start with the countries that pollute the least but are the most vulnerable. Developed countries should support their actions to combat climate change.

Another meeting was with Mr. João José Fonseca, who told us that:

- The excessive heat hinders farming, and "the plants go down" years ago the harvest was better. Corn, one of the main subsistence crops in Cabo Verde, which is staple food, is a very weak plant and the heat destroys it;
- He doesn't think there's not much we can do to change it, and farmers shall adapt to climate change.

The meeting with Cleiton Nascimento was held in his farm. He is a young man of 24 who tells us that:

- Climate change affects agriculture in almost every way. Heat and drought are great examples. The heat “burns” the plants, and sometimes they become weak because of it and “go downhill” because of diseases related to excessive heat. We are experiencing many plant bugs and pests. One example is the “fall army worm” that is destroying corn crops. *“If the corn is growing and the temperatures are rising, the worms wipe out the corn, leaving only the stalk.”*
- In higher areas, above 250 meters above sea level, where there is more humidity and water, farmers get around better than here. Nevertheless, the heat is still felt, creating the right conditions for the worms to develop. Even after applying a bio pesticide provided by the local authorities to combat them, they continue to grow. Climate change can be said to be an ally of the fall army worms, because with cool weather or rain, they die out, but it only takes a few days of intense heat for them to reappear.

A group of women farmers joined a focus group discussion, including Gualdina Lopes, Basília Lopes, Lucinda Fonseca dos Reis and Ana Maria do Rosário. Gualdina Lopes stressed:

- The high temperatures have put almost an end to our agriculture, we’re getting scared of farming here. For example, I’m only sowing beans, because when it comes to corn, it’s going to get hot and the worms will eat it all, leaving only the stalk. "Years ago, Chã das Furnas was a good place to farm, but now it has changed. This year is very hot, more than in the past, and this has always been a cool place between the mountains. Every year I cover myself with a blanket at night because there’s always a breeze, but not this year. Something is wrong.

Some years ago things were better because we all had good harvests, but now it’s getting worse due to these changes in climate.

Lucinda Fonseca said:

- 2014 was the year of the turning point, when changes began to be felt stronger in agriculture.

Ana Maria do Rosário explained that:

- In rainfed agriculture, the seeds are sown in “dust”, and you can win (when it rains and there is a harvest that compensates for all the work done) or you can lose (when the weather conditions lead to the seeds rotting, or even the seeds not germinating at all). And the worst thing is that now we’ve lost the seeds, and we don’t have any corn left. (Dust sowing means sowing while the ground is dry, a few weeks before the expected rain, but if the amount of rain is insufficient, the seed will not develop and will rot, thus causing the sowing to be lost).

They don’t see many solutions to these problems, beyond adapting to them to be more resilient. They highlighted that strong support is needed, as well training on climate adapted agriculture.

Corda

In the locality of Corda, Mr. Domingos Joaquim Fortes noticed that:

- Climate change has become a major problem and is linked to harvesting. *“In recent times, periods of drought have become more recurrent, for example this year, we’ve given up hope.”* This year, he cultivated a good part of his land with corn, beans and pumpkins from mid-June to July, which is the normal planting season. However, in August there wasn’t much rain and the seed was lost, as happened to many farmers in Corda, which is known for being a humid area at an altitude of 850 to 1350 meters above sea level; then the rain came later, but the seed was already lost, and they had to plant again to try to get a harvest.

Figueiral

António Rodrigues is a rancher and farmer, and he has his own business selling agricultural transformed products:

- He doesn’t think that the impact of climate change in Cabo Verde has caused yet forest fires, for example, but it may be more probable since it is getting dryer and dryer every year;
- In agriculture, he said it affects a lot, since scarcity of water is negative and more water is needed for irrigation, depending on the soil, but above all because of the high temperatures;
- Years ago, things were certainly better. He said that this year he has decided not to sow corn because it’s not worth it. The lack of rain doesn’t allow the cobs to develop, and even the straw that could be used for animal feed is eaten by the fall army worm and all that’s left is the plant's rotten stalk.

Lombo Branco

In Lombo Branco, Mr. Pedro da Luz, was interviewed. He is a farmer who realized that:

- The higher temperatures in the months of May, June and July are normal and they help to combat the thousand-foot plague and help the rain to come more quickly. Nevertheless, now the warmer period is longer and hotter, and it has shifted.
- According to him, nowadays conditions are worse for traditional farming, but even so they continue to harvest as his family always have done as a primary income to sustain his home.

Another person interviewed in Lombo Branco, Mr. Pedro Pires, stated that:

- *"Climate change affects agriculture in all sorts of ways, because either there's too much rain or too little."* Because of this we suffer in agriculture. For example, last year we had rain as early as June, and this year it only started in August.
- He said that clearly the situation was better some 20 years ago, there were better harvests, the rains were regular, and everyone could make plans knowing for sure that it was going to rain;
- He says that in order to mitigate the effects of climate change on agriculture, some measures needs to be taken and farmers need to adapt to the new situation.

Ponta do Sol

Maria Assunção Fortes Martins, better known as "Cençon", said that fishing used to be easier, even with fewer means and no technology.

Stefan Carlos and Pedro António mentioned that:

- There is a certain scarcity of fish on the coast which means they have to dive further and deeper, which is more dangerous for them.

They are younger fishermen.
Carlos revealed that things seemed better in the past. *"The way my father talks, you can clearly see that things were better."*
Mr. Manuel Risonho, who is a local fisherman said that:

- Nowadays fishing has become more difficult. We need bigger boats to catch the same. *"In the past things were much better, mackerel for example was a fish that was given to people, we had children fishing for mackerel with a reed. There was a lot of it, but today finding one to eat is a matter of real luck."*
- He noted the waters around the island have changed and there is less fish closer to the coast, probably because current and temperature changes. For him, the solution is to organize fisherfolks in cooperatives that allows getting bigger boats to fish on the high seas.

Arlindo Évora and Pirik Lima mentioned that:

- The sea patterns are changing, it used to be calm in the summer and rougher in the winter, but nowadays we have calm seas in January and rough seas in August;
- According to him, yet climate change may not affect fishing as much as other sectors such as agriculture, but it is time for being prepared for it. He gave the example of the whales that come here in the winter months now because the water is warmer.
- He said the scarcity of fish may be due to human (anthropogenic) causes.

Sinagoga

Sinagoga is a community on the east coast of S. Antão, by the sea, where fishing has long been a very popular activity. Mr. Vitorino Delgado, Head of the Sinagoga Fishermen's Association, stated that:

1. Climate change clearly affects his work, as there has been a clear decrease in the number of fish on the coast over the last 10 to 20 years. According to him, the causes of this decrease are:

- the high water temperatures off the island's coast. A clear example, according to him, is when fish enter the natural pools at Sinagoga and end up dying because the water temperature is too hot;
- overfishing by foreign vessels shall be another cause.

2. The variety of fish has greatly diminished, fish popularly known as "melon" (wide-eyed), mackerel and melva, that were very common, have practically disappeared;

3. When asked what measures could be taken to mitigate the effects of climate change measures and the scarcity of fish, he replied that adapting to the new reality may be the best solution.

According to António Tavares, a veteran fisherman:

- Climate change has a direct impact on their livelihoods. He refers to the high temperatures on the coast, which cause fish to flee the shore, and consequently make small fisheries very difficult. Those kinds of fish that seek less warm waters and head for the high seas, where they are likely to be caught by industrial fishing vessels. The high temperature of the waters not only kills fish, but also sea snails. The number of fish of all species has dropped considerably, mackerel was the first, then the melon. The same thing happened with the djeu and the tuna. Tuna used to be a fish that could be found anywhere along the island's coast, but nowadays we shall sail far to catch them.
- He makes a connection with the entry of rainwater which is rich in nutrients into the sea from streams and other places, which according to him attracts fish. This is phenomenon that we haven't seen happen for more than four years in the Synagogue, highlighted.
- With small fishing, development is lower and food insecurity grows. If there's a lot of fish, the price will be more affordable, and we'll have a livelihood, but if there isn't, we all suffer.
- ***In the past we had many fish, today we have few, and in the future we will have even fewer if nothing is done.***
- At the moment, the fish we find most often are garoupa and moray eels, which live close to the rocks, but if we continue to fish only these species, soon there won't be any, because the populations won't have time to replenish themselves;
- ***Preservation projects have worked with the turtle and the shearwater, but the fish are disappearing.***

William and Zé, fishermen and sea divers mentioned:

- Climate change affects all marine life and the sea itself because:
- We used to know how to deal with the sea, when the sea was calm or rough, but now we predict when the sea is calm, and the sea is rougher than in winter itself. For example last year (2022) in January the sea was calm, which is unusual for that time of year;

- Fish species are found further and further away from the coast.
- *"Climate change affects everything, both on land and at sea. And not just fish, seafood is also becoming very scarce. And every day things get worse."*
- Fish have always been an affordable food for the people of the islands, but in a few years time, eating fish won't be affordable anymore;
- So far, a lot of work must be done, and everyone must collaborate in all localities: *"people need more awareness to adapt to these climate changes soon, because the path we're on has no way back, the marine life itself is being wiped it out, and many people haven't realized it yet."*

Orlando Oliveira, a farmer, who owns land in Chã das Furnas and works for himself thinks that:

- **Climate change affects everything in a "negative" way. There's not enough rain, there's too much heat, and so our sowing is completely destroyed;**
- The cultivated seed remains good for some time, waiting for the conditions to germinate with the water from the rain, since we practice rainfed agriculture.

When it rains a little, the seed starts to germinate. If after the rain, which has been very scarce, days of pure sunshine come, including temperatures above 30 degrees, the soil will end up drying out, rotting the seed that had already started to germinate, but which isn't even born because of the heat. It's always been hot here, but lately the heat has been unbearable;

- I remember years ago, when it rained always from August to October and we had good harvests. Particularly in the 80's, when there was rainfall, and milder weather, sometimes cloudy, and less heat. In recent years it has proved impossible to have a good harvest with just one good rainfall;
- Besides, there are also many pests. Many people have lost their crops due to this phenomenon;

"We've had years of drought in Cabo Verde's past, but what's happening now is different, it's something else. Rainfed agriculture is the most at risk because it depends on rain, which is not regular anymore, even in the rainy season."

Croatia

During our local activities, we tested the methodology exchanged during the first training course of the LOTI project - **Eco-Marathon**, but always added new and different elements to the methodology to open discussion and give new perspectives on topics such as ecology, environment, and life on the island.

On the first local event held on the island of Iž, in Veli Iž village, we tested Eco Marathon's nonformal activity with a twist: after collecting waste around the island we had a follow-up group discussion on **religious aspects of ecology and environment**. Participants of the event had to find in holy scriptures quotations about what religions are speaking about the relationship between humans and nature. Afterward, a deep discussion was held on the topic of the interconnection of nature, religions, and ecology.

In Ilok, we organized an Eco-Marathon followed by workshops about **recycling and upcycling plastic material** for creating recycled artworks, more specifically, participants created elements for a scenography (plastic lamps that simulate Jellyfish, and when installed with light bulbs they create a specific atmosphere where observers can reflect on plastic pollution and its impact on the sea flora and fauna). As well, we had a creative workshop using visual art and elements of illustration and storytelling to foster participants' reflections on ecology problems and open up a discussion on the environmental protection of the islands.

On the island of Iž, we organized again an Eco-Marathon, but this time adding a study visit to the **bio farm Maslinova Gora** on the island as the final point of the event, where we had a follow-up workshop where participants had time for observation of the farm, meditation and harnessing the positive energy that the farm generates for boosting the spirit. Participants had a chance to interact with animals on the farm and learn the biodynamics of the farm and the history of how the farm was used for therapeutic work.

In December 2023 on Veli Iž we held a 4-day **seminar and networking** to establish a dialogue with active stakeholders on the islands and young people at a round table and a four-day networking program to strengthen, inspire, refine and support each other in future initiatives. The activity had an interdisciplinary and intergenerational approach to the topic of the development of the island and gathered youth, representatives of nonprofit organizations, education institutions, social entrepreneurs, and local citizens, including the elderly. During the first day of the program, participants presented their scope of work and initiatives as part of an exchange of good practices of rural or island development and getting to know each other better before starting to develop initiatives. During the second, third, and fourth days of the program participants approached the topic of the **island development** based on the local resources, and natural and cultural heritage, giving a strong emphasis that if the development of sustainable and thematic tourism out of the high summer season, should naturally follow if fundaments for living on the island are met for local people, such as social and cultural activities based on the cultural and natural heritage of the island. Therefore, during the three days participants were developing ideas for future implementation, but always inviting local community actors to the dialogue, to involve them in the process from the beginning, and to grasp their perspectives, of actors who are living on the island during the whole year and their lifetime. Moreover, the daily program contained activities to exchange and learn non-formal methods for working with youth on the topic of environmental protection and ecology.

At the end of the year, on the island of Iž, we once again organized an Eco-Marathon event for cleaning the path used by locals and tourists to reach the top hill of the island. Later we went on the bio farm for a study visit, where traditional oven for baking the clay was fired up, and participants had the opportunity to learn about the process of baking the clay and **cultural heritage of the island**. Iž was known in history for *Iški lopuži* (clay pots that were created for cooking). Afterward, participants had a task in complete silence to walk around the farm and observe the biodiversity of the farm. Later, the discussion was held in a room followed up by music improvisation, where participants could take any instrument or natural object (stone, wood, etc) and join the jam session.

Greece

Environmental education examples of program implementation

Environmental education is an important means of raising people's awareness and consciousness about environmental issues and promoting sustainable behavior. There are many examples of environmental education programs that we plan to implemented in Syros.
Some of these include:

1. Visits to natural ecosystems: Organize excursions and visits to local natural ecosystems such as beaches, wetlands or forests. During visits, present information about the biodiversity, ecology and threats facing these ecosystems. Especially the NATURA park of Northern Syros, a protection area with the European **Programm NATURA**.

2. Clean-up campaigns: Organize clean-up campaigns on beaches, streets or other areas with an environmental problem. Assign teams to collect litter and raise awareness about the importance of a clean environment. **ECO - MARATHON**.

3. Seminars and training programs: Organize seminars and training programs for local residents, students or other interested groups. We will invite experts to talk about topics like sustainability, recycling, energy conservation and other environmental topics.

4. Creative activities: Organize creative activities such as painting, building from recyclable materials, making gardens, etc. These activities teach recycling, sustainability and love for nature.

5. Natural Guides: Train volunteer local residents to act as natural guides for visitors to Syros. Guides can provide information about the island's history, environment and biodiversity. **Working with ESC program inviting international Volunteers.**

These are just a few examples of environmental education programs that can be implemented in Syros in **short and long terms**. It is important to adapt the programs to the needs and priorities of the local community and to work with local actors for their successful implementation.

Application in primary and secondary schools training

Environmental education in primary and secondary schools is an effective way to inform and encourage students to develop sustainable behaviors and understand the importance of environmental protection.

Some ideas for implementing environmental education programs in schools include:

1. Curriculum integration: Integrate topics related to the environment and sustainable development into the curriculum. This can be done in subjects such as biology, geography, chemistry, physics, but also in interdisciplinary subjects. Provide information, exercises and activities that encourage students to think and act environmentally.

2. Extracurricular activities: Organize field trips to natural places and environmental points of interest, such as beaches, habitats, renewable energy sources, etc. During the field trips, we can organize field studies, expert talks, and educational activities that enhance environmental awareness.

3. Educational programs and games: Develop educational programs and games that focus on environmental issues. You can use interactive games, such as educational apps on computers or mobile phones, to help students learn about sustainability, recycling, energy, and other environmental topics. We have created the Education Tool “I walk the paths of my island – I discover my self” Educational Theater activities in schools, we have created from years and we work with specific methodology.

3. Community actions: Encourage students to participate in community actions related to the environment. They can organize recycling campaigns, participate in area clean-up actions or develop innovation projects that promote sustainability and sustainable development.

4. Collaboration with external agencies: Work with local environmental agencies, non-governmental organizations and experts to provide educational support and experiences to students. You can invite visitors for talks, workshops and field trips, or organize student visits to local environmental organizations.

These are some examples of environmental education programs that can be implemented in primary and secondary schools. It is important to adapt the programs to the particularities of the school context and to work with teachers and school administration for their effective implementation.

Promoting sustainability in everyday life

Promoting sustainability in everyday life is vital to protecting the environment and achieving sustainable development. Some ways we can promote sustainability in everyday life are as follows:

1. Save energy: Turn off lights when not in use, use energy-saving bulbs or LEDs, and turn off electrical appliances when not in use. You can also invest in renewable energy sources such as solar or wind systems.

2. Recycling and incineration: Separate your waste into different categories for recycling, such as plastics, paper, glass and metals. Also, you can reduce the use of single-use plastic items and prefer recyclable products. Additionally, look for waste incineration facilities to reduce the burden on landfills.

3. Sustainable transport: Prefer using public transport, cycling or walking over private car use when possible. If you need to use a car, you can combine your commute, drive economically and join car sharing programs.

4. Conscious consumption: Choose products with sustainable materials and waste reduction, such as products with space-efficient packaging or recyclable packaging. Try to reduce water and energy consumption when buying and using products.

5. Strengthening nature: Participate in volunteer activities aimed at protecting and developing the natural environment, such as planting trees, cleaning homes, and preserving wetlands.

Protection of biodiversity

Protecting biodiversity is critical to maintaining the ecological balance and well-being of our planet. Some measures that can be taken to protect biodiversity are:

1. Create protected areas: Identify and protect areas of high biodiversity, such as national parks, protected areas and dying areas. This will ensure the preservation of natural ecosystems and the species that depend on them.

2. Sustainable farming: Adopt farming methods that respect the environment and biodiversity, such as organic farming and avoiding the use of harmful pesticides. Promote crop diversity and the preservation of traditional agricultural varieties.

3. Conservation of natural habitats : Protect natural habitats , such as wetlands, forests, uplands, etc. and underwater habitats. These habitats provide shelter and food for many species and help maintain biodiversity.

4. Avoiding illegal hunting and trading: Combating illegal hunting , fishing and trading of wild animals and plants. These activities pose a serious threat to many species and reduce biodiversity.

5. Awareness and education: Increase awareness and education about the importance of biodiversity among all age groups. Implement educational programs and integrate environmental education into school curricula.

Italy

The local activities implemented in Sant' Antioco had the following objectives:

1. Involve the community and in particular young people in raising awareness of the vore of the territory and memory
2. Enhance the territory of Sant'Antioco starting from its several vestiges of ancient cultures and wisdom
3. Offer input for work opportunities in the field of cultural and eco-sustainable tourism
4. Encourage the start of research work with local actors, with a holistic vision that integrates the preservation of natural and historical heritage with sustainable tourism and cultural development
5. Dissemination and return of project result in the Sant'Antioco island

To realise these objectives, the following types of activities and good practices were implemented:

1-1 KNOW THE ISLAND:
Know the characteristics of the island territory to understand past industrial exploitation and present resources

1-2 WORKSHOP ON THE POTENTIALITY OF LOCAL HISTORY IN THE PRESENT:
The festival, the textile tradition, Contemporary art

1-3 ORGANIZING COLLECTIVITY EXHIBITION ON TEXTILE ART:
The involvement of female citizenship led to research on the textile tradition owned in homes and the need to organize a participatory and collective exhibition

1-4 GIVEN COMMUNITY DINNERS:
Splendid result of the work with the community, the three shared dinners at the end of artistic events in the village, dinner and after dinner as a recovery of relationship between generations

1-5 HISTORY AND TERRITORY PRESENTATION ACTIVITIES IN THE ARTISTIC RESIDENCE:
Knowledge of the island's history is an important imput for the artists who have been invited to interpret past and present through various artistic forms

2-1 ARCHEOLOGICAL RESEARCH FOR VALORISING HISTORY AND TERRITORY:
The very important archaeological heritage is appreciated by many foreign scholars and universities in excavation and research practices

2-2 RECOVERY OF TRADITIONS AND ARTISTIC INNOVATION:
Traditions are inspired to create remembrance and participation with innovative artistic results and means

2-3 CINEMA, ART AND TRADITIONAL COSTUMES DOCUMENTARY VIEWING:
Community research led to the production of a well-attended documentary screening in the splendid Arena Fenicia

3-1 SUSTAINABLE DESIGN WORKSHOP:
How to design nature-related activities, the importance of networking and experimentation

3-2 WORKSHOP TRADITIONAL SARDINIAN CUISINE:
Discovering the secrets of the ancient flavors and recipes of Sardinia

3-3 WORKSHOP SELF-PRODUCTION LABORATORY:
Recovery of traditional uses for the production of soaps and cosmetics with the use of local natural herbs and essences

3-4 HANDICRAFT LABORATORIES:
In embroidery and filet - recovery of craft techniques as an opportunity for work and artistic elaboration

4-1 SOUND LABORATORY MUSICOLOGY AND SOUNDS OF NATURE THAT YOU CHANGES:
Listen to the sounds of nature and compare them over time to understand how birdlife changes and how the work around us changes

4-2 PHOTO LABORATORY:
Photography of nature and the possibility of comparison between yesterday and today makes us understand transformations and makes us alert to changes

4-3 PHOTOGRAPHIC RESEARCH ART AND SUSTAINABILITY:
Photography as research and study of the territory with a view to sustainability, studying, the original flora, searching for and rediscovering it, hoping for reforestation that is useful to the environment

5-1 CONVENTION OF ARTISTS FOR TEXTILE ART RESIDENCIES:
Reworking contemporary textile art with internships and community meetings) as project return

5-2 TEAM SULCIS MEETING WITH ASSOCIAZIONE OTTOVOLANTE BOLOGNA:
Meeting to disseminate the project idea and results achieved

5-3 DOING WELL TOGETHER:
On the interest of the young participants in this project dissemination meeting with the ecological group

5-4 MEETING WITH EU PROJECT INTERESTED GROUP:
Informal group created between collaborators and members of the Bologna association interested in ecological issues

5-5 DISSEMINATION AND RETURN OF PROJECT:
Meeting with local actors and young people interested in environmental issues managed with participatory practices also to raise awareness

Martinique

Eco terrarium

What is a terrarium?
A terrarium is a confined environment imitating the ecosystem of certain animal and/or plant species.

Why create a terrarium?
The main idea behind an eco terrarium is to create a microclimate, even if you're in a totally different climate. The whole point of a terrarium is to have living plants in your own home, without any maintenance.

Terrariums come in all shapes and sizes, and must be adapted to the needs of the animals or plants that will be living in them. The vast majority of terrariums are made of glass, as with aquariums. However, there are also terrariums made of plastic, metal or wood (with a transparent side).

Not all plant species are suitable for terrarium cultivation. Plants must be able to make do with a small volume of substrate (and therefore have a poorly developed root system), they must be small and slow-growing, and they must be adapted to humidity conditions.

How to build an eco-terrarium

There are two ways to build a terrarium:
Version 1 - With the help of a bottle cutter

To create an eco terrarium, you can use this tool to cut the bottle.
+ Easy to integrate substrates.
- A cut glass bottle is dangerous! You can easily cut yourself.

Version 2 - Without opening the bottle
To be on the safe side, you can leave the bottle unopened. And leave it as it is.
+ Less chance of injury
- Aesthetically speaking, it can be more complicated. Sliding the substrates can obstruct the clarity of the glass and make it harder to see.

The equipment
A glass bottle/jar (a container that allows light to pass through)
Bottle cutter (for version 1)
Hot water (for version 1)
Cold water (for version 1)
Glass glue (for version 1)
Plant elements: stones, sand, earth, planting material

The substrate
To build an eco-terrarium, the most important thing is the substrate. The substrate is the element that will form the floor of your terrarium. A terrarium is composed of 3 layers - rocks on the bottom, sand in the middle and soil on top

Steps to follow

1. Choose a container, preferably glass, with a lid to create an enclosed event.
2. Place a layer of gravel, stone/rock or clay balls at the bottom.
3. Add a layer of sand.
4. Then a layer of soil. This is how you create your substrate.
5. Include plants suited to terrariums: Opt for species that thrive in damp, confined environments.
6. Water lightly: Maintain constant humidity without over-wetting the substrate.
7. Close the lid to create a self-sustaining ecosystem.

Place the terrarium in a well-lit area, but avoid direct sunlight to prevent overheating.
Monitor humidity: Add water as needed to maintain balance.

How does it work?
Transpiration: plants absorb water through their roots and release water vapour into the air through their stomata.

Condensation: water vapour hits the cooler surface of the terrarium's interior, loses heat and condenses to form water droplets, which then "rain" into the soil and are absorbed by plant roots.

Evaporation: water in the soil evaporates into water vapour

QUIZ

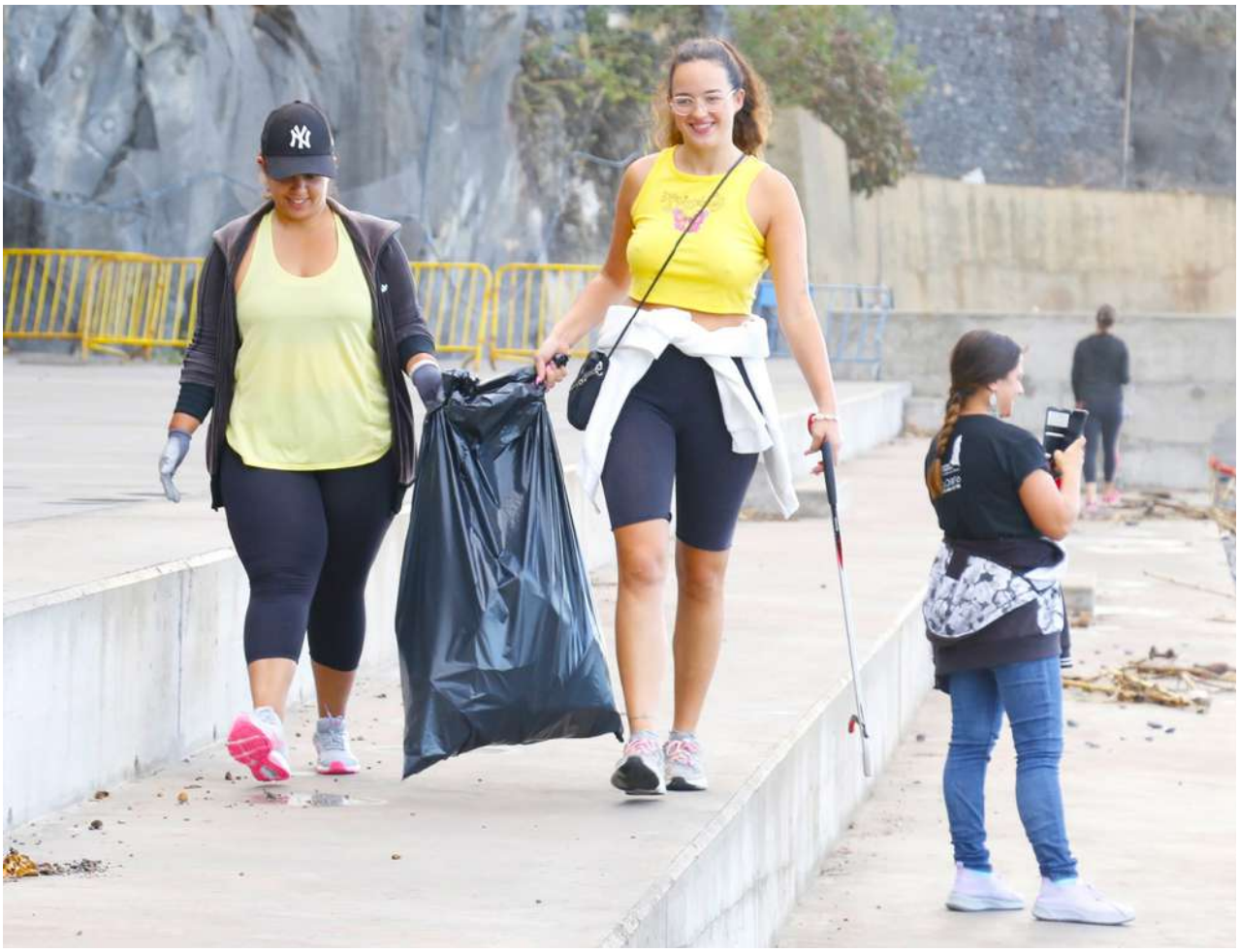
1. What is a terrarium?
2. What's the main idea behind a terrarium?
a) To create a micro climate even when in a different climate.
b) To reproduce the agricultural pattern.
c) To have mini fruits.
3. How many substrates are there in a terrarium?
a) 5
b) 12
c) 3
4. In what order are they placed ?

Portugal

The islands face particular challenges in waste management due to geographical isolation and limited resources. This problem is aggravated by the lack of space for landfills and difficulties in transporting waste to the continent. Tourism, which is frequent on many islands, intensifies the issue by increasing the production of garbage seasonally. Pollution, especially from plastics, severely impacts marine and coastal ecosystems, affecting the biodiversity and natural beauty of the islands, as well as compromising the health of inhabitants and wildlife.

In this context, clean-up actions, particularly with the participation of young people, emerge as essential. They raise environmental awareness, strengthen the community, and assist in the preservation of island ecosystems. An exemplary initiative is the **Eco Marathon**, which combine physical activity and environmental engagement. On these walks, participants collect garbage along the way, promoting the cleanliness of natural areas and greater awareness of the environmental impacts of garbage. These marathons transcend mere physical exercise, acting as educational platforms and promoting community collaboration and environmental responsibility. Through them, participants develop a deeper connection with nature and reflect on the importance of preserving the environment.

These activities are crucial for mitigating the negative impacts of litter on the islands, highlighting the need for sustainable solutions such as recycling, composting, reducing waste generation, and environmental education. Not only do they preserve the island environment, but they also strengthen the sense of community and collective responsibility for a more sustainable future.



Did you know that participating in a clean-up action has several personal and social benefits? Here are a few:

- **Sense of personal accomplishment:** Seeing the direct impact of your work on cleaning up a dirty or polluted area is gratifying.

- **Connecting with the community:** You work as a team with others who share similar concerns about the environment. This strengthens ties with the community and creates a sense of belonging.

- **Environmental awareness:** you become more aware, and this leads to changes in behaviour, such as reducing waste and recycling.

- **Positive impact on the environment:** you contribute directly to the preservation of the environment, protect wildlife and prevent soil and water contamination.

- **Environmental education:** you learn about eco-friendly practices. This helps you better understand environmental issues and adopt more sustainable practices.

- **Encouraging change:** By participating, you inspire others to get involved in similar activities, leading to an increase in positive action in the community.

- **Improved quality of life:** you contribute to making places more pleasant and safer for everyone.

- **Skills development:** You develop practical skills such as teamwork, organization, and time management.

- **Sense of belonging to nature:** we feel more connected to nature after participating in clean-up actions, this leads to greater respect for the environment.

- **Inspiration for broader change:** The experience can inspire you to get involved in more extensive environmental volunteering activities, or even advocate for changes in policies and regulations related to the environment.

Participating in clean-ups is a tangible way to make a difference in your local and global environment. By helping to fight pollution and waste, you are contributing to a cleaner and more sustainable world.

LEARNING FROM MIND-BLOWING DOCUMENTARIES

Learning about climate change and other environmental issues through documentaries are remarkably effective for several reasons. First, documentaries provide a visual and auditory form of learning that can be more engaging and memorable than traditional text-based methods. The powerful imagery and personal stories presented in these films often resonate on an emotional level, encouraging empathy and deep understanding of issues.

Additionally, documentaries have the ability to present complex information in an accessible and understandable manner. They often use graphics, animations, and narrations to explain scientific concepts and statistical data, making them easier to assimilate for a wider audience. This approach helps to demystify environmental and climate science, allowing people to better understand the causes and impacts of climate change.

Another significant advantage is the ability of documentaries to show the real consequences of climate change and environmental degradation in different parts of the world. They offer a glimpse into the experiences of affected communities, flora and fauna, highlighting the urgency and global scale of these challenges. This exposure can be a powerful motivator for action and behaviour change.

Finally, many documentaries also feature solutions and success stories, inspiring viewers to believe that positive change is possible. They highlight technological innovations, community efforts, and effective policies, offering practical pathways to climate change mitigation and adaptation.

All in all, watching documentaries is an effective educational tool for increasing awareness and understanding about climate change and environmental issues, motivating positive and informed action.
Following, we are suggesting a list of 10 documentaries you shouldn't miss. Watch them alone or gather some friends for a movie night, or even organize a community event:
THE SEEDS OF VANDANA SHIVA – this is a compelling documentary that delves into the life and work of Vandana Shiva, an influential environmental activist and advocate for biodiversity. The film highlights her fight against corporate patents on seeds and champions the importance of organic farming and sustainable agriculture.

KISS THE GROUND – is an impactful documentary that explores regenerative agriculture as a solution to climate change. It highlights how restoring soil health can sequester carbon, rejuvenate ecosystems, and offer sustainable farming practices, ultimately presenting a hopeful vision for combating environmental degradation and climate crisis.

ROOTEN – is a revealing documentary series that delves into the global food industry, uncovering disturbing truths about the production and supply chains of various foods. Each episode focuses on different products, highlighting the often-unseen impacts on health, social justice, and environmental sustainability.

HONEYLAND – this documentary delves into the life of Hatidze Muratova, one of the last wild beekeepers in Europe. Set in the rugged landscapes of North Macedonia, it beautifully captures the balance between humans and nature. The film is a visually stunning, intimate portrayal of resilience and sustainability, underscoring the delicate harmony essential for both environmental and personal survival.

COWSPIRACY: THE SUSTAINABILITY SECRET – is a provocative documentary that delves into the impact of animal agriculture on the environment. It explores the significant role this industry plays in deforestation, water consumption, and greenhouse gas emissions, while also examining the policies and silence of major environmental organizations on this issue. The film challenges viewers to reconsider their dietary choices and its environmental implications.

THE 11TH HOUR – produced and narrated by Leonardo DiCaprio, digs into the critical state of our planet's environment. It highlights the dire effects of climate change, deforestation, and species extinction, and emphasizes the urgent need for immediate action. The film showcases expert insights and offers potential solutions to restore Earth's ecological balance.

MY OCTOPUS TEACHER – this captivating documentary explores the unique bond formed between a filmmaker and a wild octopus in a South African kelp forest. This visually stunning film not only showcases the intelligence and beauty of the octopus but also delivers a profound message about the interconnectedness of humans and nature, highlighting the wonders and fragility of the underwater world.

2040 – blending traditional storytelling with a speculative approach to address climate change, this documentary directed by Damon Gameau, presents a hopeful vision of the future by exploring what the world could look like in 2040, if we adopted the best environmental solutions available today. The film uniquely focuses on positive and practical changes, inspiring viewers with a message of optimism and action.

THE TRUE COST – a thought-provoking documentary that delves into the harsh realities of the fashion industry. It uncovers the environmental and human toll of fast fashion, highlighting the exploitation of labour and the ecological damage caused by this industry. The film is a compelling call to action, urging viewers to consider the societal and environmental impacts of their clothing choices.

OUR PLANET – visually stunning documentary series that explores the beauty and fragility of the natural world. Narrated by Sir David Attenborough, it showcases Earth's diverse ecosystems, from the Arctic wilderness to the deep ocean. Highlighting the impact of climate change on wildlife and habitats, it urges viewers to consider their role in protecting our planet's future.

GET OUT!!! DISCOVER THE REALITY AROUND YOU

Learning about climate change and environmental problems is essential in the modern world, even more so if you live on an island. Study visits tours offer a hands-on and engaging approach to acquiring this knowledge.

Effectiveness of Study Visits in Environmental Education

- **Direct and Engaging Experience:** Seeing the effects of climate change and environmental degradation up close has a stronger emotional impact than learning at distance. This encourages a deeper understanding and personal connection to problems.
- **Contextualized Learning:** visiting a real-world environment allows you to better understand the complexity of ecosystems and the interactions between different environmental factors.
- **Critical Thinking Development:** Study visits stimulate critical questions and discussions about what we are seeing and experiencing, improving our critical thinking skills.
- **Encouraging Action:** Direct contact with environmental problems can inspire us to become more actively involved in solving these problems, either through changes in our own habits or participation in environmental initiatives.

RECOMMENDED LOCATIONS FOR STUDY VISITS

National Parks and Nature Reserves: Visiting protected areas helps to understand the importance of biodiversity conservation.
Recycling and Waste Management Centres: These locations demonstrate the importance of waste management and recycling, helping us understand the life cycle of products and the impact of waste on the environment.
Renewable Energy Stations: Visits to wind or solar farms provide practical knowledge about clean energy alternatives, highlighting the importance of the energy transition to combat climate change.
Areas Hit by Natural Disasters: Areas affected by extreme events, such as wildfires or floods, vividly illustrate the impacts of climate change, raising awareness of the urgency of climate action.
Environmental Research Institutions: Universities and research centres offer insight into ongoing scientific studies related to climate change, providing a more in-depth understanding of current scientific processes and evidence.
Communities Affected by Environmental Problems: Interacting with communities facing direct environmental problems, such as pollution or water scarcity, offers a unique human and social perspective on these challenges.

Conclusion: Study tours are a valuable educational tool, providing real-world experiences that enrich the understanding of climate change and environmental issues. They offer more interactive and contextualized learning, encouraging action and engagement on environmental issues. By visiting specific locations, individuals gain a more comprehensive and practical perspective on the environmental challenges facing our society.

A STAGE FOR VOICES: USING DRAMA TO MAKE A CHANGE

Theatre of the Oppressed is a participatory theatre that encourages audience interaction and explores solutions to societal problems. It's a method of using theatre as a tool for social change, based on the idea that dialogue and interaction can help individuals and communities transform their realities. In the context of environmental education, TO can be a dynamic way to engage people in understanding and addressing climate change and related issues.

Techniques of Theatre of the Oppressed for Environmental Education
Forum Theatre: Participants act out a scene depicting an environmental issue, like pollution or deforestation. After the scene, the audience can stop the play, replace actors, and suggest different actions or solutions. This method allows participants to explore practical ways to tackle environmental problems.

Image Theatre: Participants use their bodies to create physical images that represent environmental issues. This technique helps in visualizing the impact of climate change, such as melting glaciers or deforestation, making the abstract more concrete.

Invisible Theatre: This involves staging a seemingly spontaneous performance in a public space, addressing an environmental issue like waste management. The goal is to provoke discussion and awareness among unsuspecting bystanders.

Legislative Theatre: Used to formulate new laws or policies. Participants could enact scenes related to environmental regulations and then debate and vote on new ideas, making the political process more accessible and relevant.

Examples and Justification of Effectiveness

Understanding Complexity of Climate Change: Through TO, participants can explore the multifaceted nature of environmental issues. For instance, a forum theatre piece could depict the conflict between economic development and environmental protection, encouraging audiences to understand and discuss the complexities rather than view the issue in black and white.

Encouraging Empathy and Personal Connection: Image theatre can be used to show the effects of climate change on different communities, fostering empathy and a personal connection to distant or abstract issues.

Promoting Active Engagement and Solutions: Forum theatre, especially, promotes active problem-solving. Participants are not just passive recipients of information but are encouraged to think critically and propose actionable solutions.

Raising Public Awareness: Invisible theatre acts in public spaces can catch people off guard, leading to genuine reactions and discussions about environmental issues, thus raising public awareness in an unconventional and impactful way.

Influencing Policy and Change: Legislative theatre can be a powerful tool in advocating for environmental policies. By dramatizing policy debates and allowing the audience to participate in the legislative process, TO can influence real-world environmental policy-making.

Case Studies

Amazon Rainforest Deforestation: A forum theatre piece could depict the challenges faced by the Amazon, allowing audiences to explore solutions to deforestation and indigenous rights.

Climate Change in Coastal Areas: An image theatre session could illustrate the rising sea levels' impact on coastal communities, making the abstract concept of global warming more tangible and urgent.

Urban Pollution: Invisible theatre can be performed in urban settings to highlight issues like air pollution or waste management, directly engaging the public in these everyday environmental challenges.

Conclusion: Theatre of the Oppressed offers an innovative and effective approach to environmental education. Its interactive nature not only informs but also actively involves participants in understanding and addressing climate change and environmental issues. By employing various techniques of TO, educators and activists can create impactful learning experiences that encourage empathy, understanding, and active engagement in environmental matters. This method's ability to connect personal experiences with broader societal issues makes it a powerful tool for fostering change and raising awareness about environmental challenges.

Papua New Guinea

Environmental Education Program for Youth Henganofi Secondary School, Lababia Primary School and Salamaua High School As part of the Morobe Foundation's commitment to environmental sustainability and education, it has launched an environmental awareness program in Goroka and Morobe Province, Papua New Guinea. Specifically, the program was implemented in Henganofi Secondary School, Lababia Primary School and Salamaua High School.

The program aims to educate students, teachers, and the wider community on the importance of environmental conservation and sustainability.

Goals and Deliverables:

- Educate youths and local communities on the pressing issue of climate change and environmental degradation.
- Mobilize youth to participate in climate action.
- Emphasize to youths the importance of equal participation, responsibility and social inclusion.

Significance of the Project:

Papua New Guinea is highly vulnerable to the impacts of climate change and natural disasters. PNG experiences a wide range of climate-related hazards, including cyclones, droughts, floods, and sea-level rise. In response to these challenges, various initiatives have been undertaken at the sub-national/provincial/community level to address climate change and disaster risks. These initiatives aim to enhance resilience, promote sustainable development, and protect vulnerable communities.

Main Initiatives:

Below is a list of the main initiatives this project has undertaken:

1.Classroom Education

Jeanie Tumbik has conducted classroom education programs in the region of Henganofi. She has also reached out to more than 300 youths in Henganofi while undergoing teacher training at the University of Goroka. Henganofi is a district of Papua New Guinea which has around 55,700 residents.

2.Emphasizing the Role of Indigenous Practices in Environmental Conservation

Educational materials used in the environmental awareness programs stress the importance of Indigenous knowledge and wisdom in environmental conservation. The indigenous people of PNG have developed sustainable practices over centuries, rooted in their cultural beliefs, traditional customs,

and spiritual connections to the land. Indigenous knowledge can be applied to care for the environment through traditional land management practices, the recognition of sacred sites and traditional ecological knowledge, as well as utilizing traditional farming techniques that promote sustainable agriculture. One salient example is the agroforestry systems that PNG's indigenous communities have developed — combining tree crops, such as cocoa or coffee, with other food crops. These systems mimic natural forest ecosystems and enhance soil fertility, reduce erosion, and provide habitat for wildlife.

3.Social Media Campaigns and Video-Making

The project aims to launch social media campaigns to raise awareness about the importance of environmental conservation.

Below are examples of social media slogans and educational materials that have been curated:

- "Save the Environment: Protecting our environment starts with us individually."
- "Your planet depends on you."

How to Protect the Environment:

- **Reduce, Reuse, and Recycle:** Cut down on what you throw away. Follow the three "R's" to conserve natural resources and landfill space.
- **Volunteer:** Get involved in cleanups and protect your community. You can also volunteer to protect your watershed.
- **Educate:** Further your education and help others understand the importance and value of our natural resources.
- **Conserve Water:** The less water you use, the less runoff and wastewater ends up in the ocean.
- **Choose Sustainable:** Learn how to make smart seafood choices.
- **Shop Wisely:** Buy fewer plastic items and bring a reusable shopping bag.
- **Use Long-lasting Light Bulbs:** Energy-efficient bulbs reduce greenhouse gas emissions. Remember to switch off the lights when leaving the room!
- **Plant a Tree:** Trees provide food and oxygen, save energy, clean the air, and combat climate change.
- **Choose Non-Toxic Chemicals:** Opt for non-toxic chemicals in your home and office to avoid sending harmful substances into waterways.
- **Bike More, Drive Less:** Use bicycles for transportation whenever possible to reduce carbon emissions.

Let's come together and make a difference for a sustainable future!

The project aims to produce an educational video which will include the following content:

Introduction

- Definitions
- Brief history of climate change and environmental degradation following the Industrial Revolution.
- Why is it important to talk about climate change and environmental degradation and try to address the issue?

Body

- Evident impacts both globally and locally (in PNG)
- Impacts faced at a family level and on me as an individual.
- Impacts on the natural environment.
- Predictions for 10 years or so
- **Solutions:** National government and world strategic plans and actions in place, how effective these strategic plans are, what I must do as an individual in my little ways (for instance; preserve water and electricity, use shopping bags instead of plastics, practice ethical consumerism, practice the 3Rs (reuse, reduce, recycle, etc.), how we can utilize technology to address this issue, etc.

Conclusion

- Wind down everything that has been said so far and give suggestions.
- End the presentation on a high note to give motivation.

This is a link to the video for reference:
https://drive.google.com/file/d/1bSxoWJAzfazKV3w6BZITAIdUIUFKbXAZ/view

Case Study:
A deeper look at the Environmental Education Program carried out in Salmaua High School and Lababia Primary School

Geographical Location
Salamaua is a small town situated on the northeastern coastline of Papua New Guinea, in Salamaua Rural LLG, Morobe province. The settlement is built on a minor isthmus between the coast, with mountains on the inland side and a headland. The closest city is Lae, which can be reached only via boat across the gulf.

History
In the 1920s, prospective gold miners used Salamaua as a staging post. Gold was discovered at Wau and miners came from all over via the rough Black Cat Track. The town was captured by the Japanese on 8 March 1942 during World War II. It was later retaken by the Australian and United States forces on 11 September 1943 during the Salamaua–Lae campaign. During reoccupation, the town was destroyed. Today, the villages of Kela and Lagui occupy the site, as well as holiday houses mainly owned by expatriates based in Lae.

Activity Details
Students in Salamaua were educated on the importance of looking after their environment in terms of pollution control, waste management as well as to avoid discarding plastic into the ocean. MDF coordinator Willie Doaemo delivered an introduction on Morobe Foundation, including its work and members. He introduced the program, its goals, partners, and significance to local communities. He spoke about the important conservation areas in Papua New Guinea, such as the Kamiali Wildlife Management area. He stressed the importance of environmental conservation, to protect endangered species such as the Leatherback turtle which visit the area during nesting season.

The second speaker proceeded to explain the major causes of climate change. He analyzed how it is currently affecting natural earth systems and livelihoods worldwide. Some questions he posed included:
Why is it important to talk about this issue and future predictions?
How prepared are we to mitigate and cope with the impacts of climate change and environmental degradation?

He also proceeded to discuss some important solutions:
What can youths do to address the issue?
What are some actions individuals can take to contribute towards combating climate change?

The significance of the project was then discussed. Many of the participants in Salamaua and Lababia face an uncertain future as climate change brings about rising sea levels, increased inland water salinity, and the loss of marine life. Youth have the potential and power to help solve PNG's most pressing issues. Thus, the education of young children on climate conservation, tree planting projects, and coastal cleanups play an especially critical role in combatting climate change.

Overall Importance of the Project

While Papua New Guinea is labeled as a developing country, it contributes greatly to the reduction of greenhouse gas emissions. Numerous communities and youth groups are already taking action and developing solutions to address climate change and environmental issues. However, there remains a need for further education and awareness so that young people fully grasp climate change concepts and environmental policies. With increased youth involvement and perspectives represented, more momentum and political motivation can be generated to advance national-level policy discussions on these pressing challenges. Empowering PNG's youth to have a seat at the table will be key to driving progress and change.

—We are interconnected with the environment…we look after the environment and the environment looks after us.

Tanzania

WOMEN'S EMPOWERMENT

Women beneficiaries were exposed with kitchen garden Methodology and Techniques, kitchen garden kits have been procured and deployed

Community Forests Pemba (CFP) and Community Forests International (CFI, sister NGO) is also implementing **"Zanzibar Women's Leadership in Adaptation Project"** (ZanzADAPT) aimed to improve gender equality and nature-based climate adaptation capacity in vulnerable coastal communities on Pemba and Unguja Islands, Zanzibar. Percentage of the participants were 80% women, 40% youth. 60% marginalized.

The goal is to achieve improved nature-positive economic status for women and climate resilience for their communities in Zanzibar.

Results:

- Improved Charcoal Production System
- 1,738 clean stove produced
- 24 clean stove production co-operatives
- 55% decrease in wood consumption compared to traditional methods

By increasing leadership skills and powers for women along with technical knowledge and access to physical resources, so that women can benefit from agroforestry and mangrove forest opportunities.

- +60% women improved their income
- +250 hectares of mangrove protected

STUDY VISITS

Italy

KICK-OFF MEETING, TOURS ON HISTORICAL AND CULTURAL ITINERARIES
The study visits during the first meeting were designed to set up a research methodology on the historical/social/geopolitical reality of the territories. The aim was to initiate a method of observing how much the territories have been damaged by industrial policies and at the same time what are the remaining potentials to be entrusted to the task of young people.

On the instructions of experts Giuseppe Gherardi and Mauro Carta, whose respective talks covered these aspects, the following study tours were proposed :
Path of the former industrial zone (Sardamag),
Analysis of the territory,
Polluting caps,
Magnesium and heavy metals deposit: observation of how nature is recovering the territory and at the same time how the zone is always more and more an open-scale dust disposal

The most serious situation in the area, which affects 12 of the 40 hectares occupied by the industrial zone, is due to the damage from the processing of 2 industries for the extraction and refining of metals and refractory stone. The latter also brought major devastation due to the magnesium recovery quarry : from the sea to inland areas. We observed the damage still present and the structure at sea created for washing materials; we appreciated the beauty of the place and its strategic location right at the entrance to the harbor. We could also see that no initiative was ever undertaken for the the task of land and water bodies restoration on the environmental damage. In the face of the additional damage due to pollution from more recent open-air landfill, the proposed walk nonetheless made us notice how nature is bringing back plants typical of marine-lacustrine areas, eg glasswort, traditionally considered an edible vegetable. The walk took place at sunset, a time of day when colors and the definition of sea-land boundaries are appreciated.

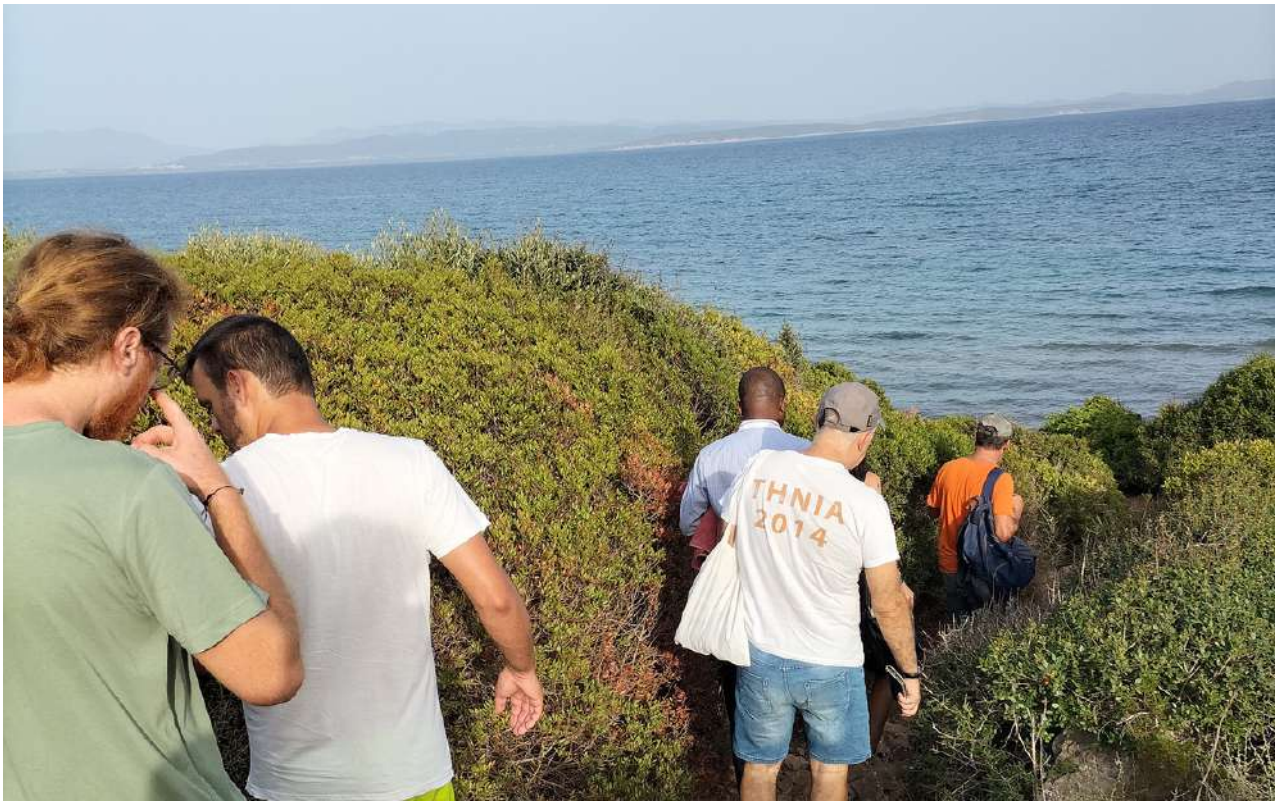
- SALT MARSH PATH ON THE ISTHMUS OF THE ISLAND
Bird watching and specifically the flamingo colony

At the entrance to the town with the sea divided into basins that go all the way to the main island (Sardinia) we embarked on a walk that on the one hand is appreciated for its wilderness and the increasingly pink colors of the salt marsh, and on the other has many signs of abandonment of small military or industrial settlements. The avifauna is very diverse thanks to the presence of very rare birds such as herons, black-winged stilts, egrets, cormorants, pyro piros, avocets but above all a large colony of flamingos, present in all seasons. We walked the stretch of a few kilometers to the great salt mountains and returned: ideal of the route is to get as far as Porto Botte in Sardinia, but it would have posed the problem of the return as the area is not served by public transportation.

- ROUTE TO THE LAKE AND OBSERVATIONS ON THE CHARACTERISTICS OF THE - SALT MARSH PATH ON THE ISTHMUS OF THE ISLAND

At the entrance to the town with the sea divided into basins that go all the way to the main island (Sardinia) we embarked on a walk that on the one hand is appreciated for its wilderness and the increasingly pink colors of the salt marsh, and on the other has many signs of abandonment of small military or industrial settlements. The avifauna is very diverse thanks to the presence of very rare birds such as herons, black-winged stilts, egrets, cormorants, pyro piros, avocets but above all a large colony of flamingos, present in all seasons. We walked the stretch of a few kilometers to the great salt mountains and returned : ideal of the route is to get as far as Porto Botte in Sardinia, but it would have posed the problem of the return as the area is not served by public transportation.

CLOSED SEA AND ITS POTENTIALITY FOR SUSTAINABLE ECO-TOURISM
It is interesting that it is an environment that is not exploited touristically, with unspoiled nature on the coast, the presence of vegetable gardens and orchards, however at high risk of polluting waste dumping.



- CLOSED SEA AND ITS POTENTIALITY FOR SUSTAINABLE ECO-TOURISM

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Croatia

During the Training Course on Iž island a study visit was held on **bio farm "Maslinova Gora".**

The farm was built voluntarily by youngsters with problems in behavior or in searching for meaning in their lives in the past 20 years and is now used to produce herbs, fruits, and olives, by using exclusively local resources, and as a meeting point for generations, from kids to elderly, through community work practices.

Participants had the opportunity to interact with the locals exploring practices of sustainable farming and permaculture. Udruga Prizma promotes non formal education activities through arts in the natural surrounding of the field of the farm. It was a workshop, an activity of painting with natural elements. Each participant had time for the observation of the farm exploring in silence the nature around and realizing an artwork. With this activity participants had the opportunity to reflect on themselves and explore our connections with the natural surroundings.

Cabo Verde

The course was attended by around thirty (30) participants from island countries from Cabo Verde and abroad, including Madeira - Portugal, Martinique - France, St. Antiocco – Sardinia - Italy, the Cyclades - Greece, Dalmatia – Veli Iž - Croatia, Pemba - Tanzania and Papua New Guinea.

The activities took place in the agroecology center of the Afonso Martinho, and there were also visits all across the islands, to farms and fisherfolks villages, to the Eastern Plateau Forest Perimeter, to the City Hall and to the National Institute for Agricultural Research and Development (INIDA) laboratories (including the greenhouses, insectarium and bio factory).

Here is an overview of the main activities:
Guided Tour of Ribeira Grande:
The guided tour, in collaboration with the Municipal Council, allowed us to explore the historical and cultural richness of Ribeira Grande, S. Antão. Learning about the local heritage and witnessing first-hand the beauty of the landscape was truly captivating, according to the international participants.

Lecture on Green Economy:
The lecture delivered by the Dean of the School of Agricultural Sciences and Technology, of the Technical University of the Atlantic on green economy was illuminating. *"Through insightful explanations, we gained a comprehensive understanding of the processes and challenges associated with implementing sustainable practices on the island"*, underscored the participant Adilton Agues.

Dialogue and Visit to the Local Community:
Engaging with the local community provided profound insights into the impact of climate change and the strategies being employed to mitigate its effects. *"It was eye opening to witness the resilience and innovative approaches adopted by the community members in response to environmental shifts"*, explained the participant Ulisses da Cruz.

Youth Day Activities:
Our visit coincided with Youth Day, offering numerous opportunities for interaction with the young members of the community. *"Through interactive sessions, including lectures and games, we exchanged ideas and perspectives, fostering a sense of collaboration and mutual learning"*, noted the participant Elisa Quadri.

Forest Exploration with Local Youth:
"One of the most enchanting experiences was exploring the forest alongside local youth. Activities such as visiting the seed bank, engaging in natural painting, and creating a musical orchestra using natural elements highlighted the intrinsic connection between nature and community", recalled the participant Samuel Awayang.

Visit to the Bio Factory of Ribeira Grande de Santo Antão

During the visit to the laboratory (insectarium/bio factory) of the Delegation of the Ministry of Agriculture and Environment of the department of the National Institute for Agricultural Research and Development (INIDA) in Ribeira Grande, we were given a guided and informative tour of the entire Trichogramma ssp production process for the biological control of Spodoptera frugiperta (corn leaf caterpillar) using the egg parasitoid Trichogramma. The Insectario/bio factory was funded by the FAO (Food and Agriculture Organization of the United Nations). It was a very interactive/dynamic visit with the seminar participants showing a lot of interest in biological pest and disease control and environmental education in Santo Antão.

Activities in the field to commemorate International Youth Day

On the weekend, there several field activities were organized to commemorate International Youth Day, which is celebrated annually on August 12. First thing in the morning, the group went on an eco-walk around the forest of the Eastern Plateau. It was a walk (eco-jogging) of about an hour and a half, where the group hiked to the Pedra Rachada viewpoint, where the participants could admire the different types of landscapes. The group was also joined by the young people from Santo Antão, living in communities around the municipality. This was followed by a tree-planting activity. Accompanying this activity was the ADPM Association, which has various projects underway on the island of Santo Antão, including the Agroforestry Systems Project in Cabo Verde.

Explanations were also given throughout the planting and the walk, with technical support from the Forestry Services of the Ministry of Agriculture and the Environment. Thus, thanks to the assistance of some of the project's technicians, the participants were able to learn the different techniques for planting trees (for example, mulching).

Afterwards, there was a time for socializing at the headquarters of AMUPAL - the Eastern Plateau Women's Association. There, participants were able to visit the plant nursery and seed bank (such as seeds from endemic species and forest species), as well as find out more about the agro- processed products produced by AMUPAL (liqueurs, jams, sweets and others).

This was followed by a moment where representatives of institutions and projects that are partners in the international exchange of Live on the Island, presented their experiences and interacted to the public.
The panel was made up of:

- Representative of the Agroforestry project, David Fonseca;
- Coordinator of the Planalto Leste Forest Perimeter, António Carlos Fortes;
- Youth Councillor of Ribeira Grande, Sheila Santos;
- Culture Councillor of Ribeira Grande, Paulo Rodrigues;
- President of AMUPAL Mrs. Josefa Sousa;
- President of SYAH Cabo Verde, Antonio Palazuelos.

It was a relaxed moment, held in the forest, and it was a moment of exchange between the young people who took part in the exchange and the local young people.

This was followed by two workshops that took place in contemporary times. One workshop was entitled ”Natural Painting” and the other ”Natural Music Orchestra”. In the **”Natural Painting”** workshop, they painted on a white fabric canvas using natural colors and also things found in nature (plants leaves, tree crusts, branches and others). They also made “portraits” of nature which were then exhibited at the Seven Suns Seven Moons Center in Ribeira Grande for a week.

In the **“Natural Music Orchestra”** workshop, the participants performed a concert using only elements from nature as musical instruments. So leaves, branches, pine cones or anything else that could be found in nature. The concert was a very intimate moment.

Between one workshop and the next, and also to round off the day, there were various non-formal education activities to break the ice between the participants who didn’t know each other and to create a more relaxed atmosphere for the activities.

The evening concluded with an intercultural dinner in the Pedracim Village tourist area, where the participants were able to sample the delicacies of local Cape Verdean cuisine as well as traditional dances such as morna, colá sanjon, coladeira or funaná.

Eco-marathon in the coastal areas

The participants want to the northern part of the island, to the fishermen village of “Cruzinha” on the coast of the island. In collaboration with the local association, Associação Comunitária Nova Experiência Marítima da Cruzinha da Garça, the participants discover the beaches and cliffs while doing plogging to collect garbage from the coastal areas, as part of the eco-marathon activity. Over 25 large bags of trash were collected in few hours and the community engaged to do it periodically to keep clean all the coast, so the endogenous ecosystems are not affected by the human interference.

Furthermore, they were also able to interact with the local community and fisherfolks, and to and take a closer look at the turtle hatchery in the beach to protect them to nest on the sand. According to the head of this association, Rufina Delgado, all this work is done with great care and the local population helps a lot to protect and conserve them. During their stay there, the caravan took the opportunity to interact with the local community, talking to the residents and explaining the reasons for their presence on the island of Santo Antão. It’s important to note that this local association carries out this type of work with a group of male and female volunteers, who monitor the nests and accompany the hatching of the baby turtles, which are then placed into the sea.

Tanzania, Pemba

The visiting team had the opportunity to pay a visit to the Ministry of Agriculture, Irrigation, Natural Resources and Livestock (MAINRLF), and The Ministry of Blue Economy and Fisheries Pemba where they were warmly welcomed by O/I of the related Ministries.

- The O/I of the mentioned Ministries praised CFP for the close working relationship with the ministries and for the activities and interventions aimed at supporting the Pemba communities as well as protecting the environment.

- The O/I requested the visitors to be ambassadors for Pemba development and hoped that more opportunities will be for Pemba communities and Zanzibar at large particularly in the area of environment conservation, livelihood, research, climate smart agriculture and sustainable tourism.

- The visiting team praised the ministries for close working relationship with LOTI partners in Pemba and promised to work collaboratively with Zanzibar in the future

Participants were exposed to field visits in selected CFP working areas including **Gando** for learning and exposure. The team had the opportunity to visit a solar dryer operated by the Gando community during which the participants experienced drying a variety of spice products including cinnamon, black pepper, vanilla and cardamom.

Participants also had the opportunity to visit the **Wete District Model farm** located in the Gando area where they experienced climate smart farming for various CFP strategic crops including pineapple, vanilla, cinnamon, black pepper, banana, and passion fruit. Additional, the visiting team was also exposed to irrigation techniques and propagation methodology.

Visit of the implementation sites for more learning and exposure on the Pemba program and in that Gando, Njao, Kokota and Raha were chosen. During the field visit the participants had the opportunity to experience the **solar dryer** and **district model farm** at Gando facilitated by Community Forests Pemba and collaboration with the target community. The participants appreciated and praised the CFP for the good work done aimed to improve the environment and the livelihood of the Pemba community.

The participants got an opportunity to visit **Ngezi Vumawimbi nature Forest Reserve (NVNFR)**. The Ngezi forest has an area of 2.900 ha; is situated at the northwest corner of Pemba and represents the largest of the few remnants of the moist forest of Pemba. Since the Ngezi forest is also one of the last natural forest patches surviving in the East African Lowlands the area has high nature conservation significance. Apart from moist forest, Ngezi forest has other unique attractive ecosystems such as coral rag forest, mangrove forest, Filippia heath and freshwater ponds. The forest is adjoined by a long, clean and virgin beach commonly known as Vumawimbi-Beach that together with cultural and spiritual features form important tourists stop over Vumawimbi beach and Ras Kigomasha tower.

While in NVNFR, the visiting team were exposed to the general management system, ecological features of the forest reserve, eco tourism, ponds/seasonal rivers, participatory natural resources management system as well as forest conservation program. Through their walk in nature trail, the visitors had the opportunity to learn about various trees and animal species and their corresponding natural environment/ecosystem.

The visitors were well excited with the forest reserve and its surrounding environment . and had leisure time while in vumawimbi beach. Some of them promised to come back to Pemba with particular intention of visiting NVNFR. They also promised to be good ambassadors for the forest in their respective countries.

PARTICIPANTS' EXPERIENCES

It was a very enriching experience, from a professional, human and cultural point of view. I realized that certain problems are common to islands other than the one I come from, but that the solutions proposed were not the same. I was inspired by the actions taken on other islands. Thanks to this project, partnerships have been created with a view to future projects. In human terms, I've met some wonderful people, with whom I've made friends and who have practically become family. And culturally, the experience was as rich as it was intense, and the different tastes and landscapes we saw and tasted will stay with us for a long time.

-Marie-Chantal Bartel,
Martinique

LOTI project was something unique. Experience, connections, friends & new methods that will help us improve are priceless. You don't get opportunity everyday day to travel and meet with people from countries like Martinique, Papua New Guinea and Cabo Verde. We were doing best of both worlds enjoying in beautiful islands and understanding how we can influence and improve our life on the islands.

-Odisej Mušković,
Croatia

LIVE ON THE ISLAND project gave me opportunity to meet people from different island and to find out and learn about their culture and environmental problems. I met wonderful people, who are working daily for their community to create the better future for our planet and gain practical skills and knowledge to work back to Madeira island. During the project, we made various events on the local level, eco marathons were our systematic activity, which we are planning to continue also in the future. I am very grateful to be part of this project.

-Ani Sparsiashvili,
Portugal

The "Live on the Island" project made a strong contribution to environmental education to raise awareness and preserve the environment on the island of Santo Antão, namely through the training camp held in August 2023. Through an inclusive approach, involving local communities and young people, the sessions based on non-formal education methodology and experiential learning principles contributed to transforming participant's views on the effects of climate change and raised their awareness of responsible and environmentally friendly behavior. During the sessions, solutions to the main problems related to the environment and climate change were addressed from the point of view of resilience, through educational games and dynamics. Participants delved into issues related to biodiversity, waste management, island pollution, water conservation, preserving nature and the island environment, climate change adaptation and mitigation, food and nutrition security, oceans, the blue economy, renewable energies, ecological and sustainable waste management, traditional and local knowledge, and environmental innovations.

-Sergio Manuel,
Cabo Verde

As a visual artist, I'm used to organizing workshops and exhibitions all over France. But Live on the Island was a unique and very enriching experience for me, and I learned a lot professionally. I'd like to thank CEMEA Martinique and the organizers of the Live on the Island project for inviting me and recommending this adventure.

-Damien Ruvet,
France

As a beneficiary of the "Live on the Island" project, I had the incredible opportunity to travel from Santiago to the island of Santo Antão. This experience has been immensely enriching, offering valuable insights and learnings that I believe are crucial to share. Overall, the "Live on the Island" project has been a transformative experience, broadening my horizons and deepening my understanding of sustainable development and community resilience. The importance of replicating such projects in other locations cannot be overstated. By facilitating experiential learning and fostering collaboration between diverse stakeholders, similar initiatives can empower communities to address environmental challenges effectively while preserving their cultural heritage. It is my fervent hope that the success of this project will inspire others to embark on similar endeavours, contributing to a more sustainable and interconnected world.

-Eliciline Moreno,
Cabo Verde

My name is Miranda Daskou, I come from the island of Syros in Greece and I participated with the Altera Vita organization. My participation in the Live on The Island program gave me lots of things that I will carry with me for life. During this program we had the opportunity to meet partners from all over the world and share issues and good practices that we follow in our islands. It was incredible how many things we had in common even though we may live in different parts of the world. Through sharing, we were introduced to great and creative practices that other partners used to cope with environmental issues such as deforestation, pollution, waste management and drought. Some of the experiences that I will never forget are the eco-marathons and the tree plantations that we did. We were also introduced to creative ways to raise awareness such as eco-printing, eco-terrarios, music with the sounds of nature etc. We also shared elements of our cultures such as music, dances and cuisine and created precious relationships between us. I am very grateful to be a participant in this program! It left me with lots of knowledge and amazing experiences!

-Miranda Daskou,
Greece

I believe that even after the end of the project it outcomes and impact will continue and grow. As we all know, our islands are particularly affected by environmental degradation and climate change and for the island communities, raising awareness about sustainability and creating resilience are essential. Under this project we reached a lot of young people and by our systematic actions daily we can make this planet better place for everyone. Thanks for our partner for the fruitful collaboration, and we are looking forward to new future projects together.

-Jose Rodrigues,
Portugal

We concluded that seminars of this kind are extremely important because they improve the skills and knowledge of the participants and facilitate exchanges between trainers, specialists, technicians and farmers and fishermen, as well as with the partner organizations involved. The exchange of experiences was an added value when we talk about the environment and its social, cultural, economic and human dimensions. In short, during the International Training Camp the complementarities between the technical-scientific profiles and the various participants in the event were noted. Everyone knows that human beings are responsible for the environment and climate change, but only a few are concerned and try to take isolated actions that benefit the environment through projects that teach awareness of environmental problems in the course of everyday life. We can say that it is only possible to make a real difference through environmental re-education when it provides beneficial actions for society in relation to the effective conservation of nature. Although there are many isolated actions, people are realizing that in order to maintain their survival, it is necessary to be responsible for their actions and that nowadays we have to think about tomorrow, because human beings depend on Planet Earth to continue surviving.

-Helder Silva,
Cabo Verde

LITHOSPHERE

Lithosphère

λιθόσφαιρα

Litosfera

Kithirimu

Soil
Agriculture
Environmental conservation.
Renewable energy
Health

SOIL

Cabo Verde

Santo Antão Island, part of the Cabo Verde archipelago in the Atlantic Ocean, boasts a diverse and unique soil profile shaped by volcanic activity, climate conditions, and human influence. Understanding the characteristics and dynamics of its soil is crucial for sustainable agriculture, land management, and environmental conservation efforts on the island.

Geological Composition:
The soil of Santo Antão Island predominantly originates from volcanic activity, with various volcanic materials influencing its composition. Basaltic rocks, lava flows, and ash deposits contribute to the formation of different soil types across the island, ranging from fertile loamy soils to rocky terrains.

Soil Types:
The island exhibits a variety of soil types, including:
Andosols: Formed from volcanic ash and characterized by high fertility, these soils are prevalent in areas with recent volcanic activity.
Regosols: Found in rocky and steep terrains, these shallow soils often lack organic matter and nutrients, posing challenges for agriculture.
Leptosols: These shallow and stony soils are common on steep slopes and cliffs, limiting their suitability for cultivation.

Soil Erosion and Degradation:
Santo Antão Island faces significant challenges related to soil erosion and degradation due to steep slopes, intense rainfall, and unsustainable land use practices. Deforestation, overgrazing, and improper agricultural techniques exacerbate soil erosion, leading to loss of fertile topsoil and land degradation.

Agricultural Practices:
Agriculture plays a vital role in the economy of Santo Antão Island, with terraced farming systems developed to maximize arable land on steep slopes. Traditional farming practices, such as terracing and agroforestry, help mitigate soil erosion and enhance soil fertility. However, modern agricultural practices, including monoculture and improper irrigation, pose risks to soil health and long-term sustainability.

Conservation Efforts:
Conservation initiatives focus on promoting sustainable land management practices, reforestation, and erosion control measures to protect soil resources.

Collaborative efforts involving local communities, government agencies, and international organizations aim to address soil erosion, improve soil quality, and enhance agricultural productivity.

This overview provides a glimpse into the rich and complex soil ecosystem of Santo Antão Island, emphasizing the importance of sustainable soil management practices for the island's environmental and agricultural resilience.

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Croatia

The heritage that ancestors left to residents of Veli Iž was fully arable land, fully cleaned from stones and rocks, providing the best of what difficult terrain could offer. Traditionally, people looked at the whole system and themselves as one and took full advantage of all its parts. So they treated the soil as a large part of that whole, taking care of it, i.e., they used sheep and goats that returned part of the organic matter and life to that soil from which they received gifts in the form of olives, from which they made oil that was the basis of their diet. In addition, according to need and season, they nourished the soil with, for example, potato skins, by sprinkling ashes around olive trees, by growing special plants, etc.

Due to the change in the demographic situation on the island, the departure of young people and families, the land began to be abandoned and the traditional practices ceased to be applied, leading to a decrease in organic matter in the soil, to a consequent decrease of the soil water retention, to a greater sensitivity to cold and harsh winter winds, and to long periods without water in the summer.

This results in reduced fertility, reduced biodiversity, a change to the island's microclimate, soil erosion, and a greater risk of fire. Examples of dealing with these problems and the resulting situation are the application of compost

made from olive pomace, which is otherwise illegally dumped in olive groves, which represents an ecological problem. For dealing with soil drying, whether from wind or sun, the method of applying mulch has proven to be successful. There are many olive growers on the island who use chemical products to spray and maintain olive trees. In addition to polluting the soil and water with such bad practices, they kill insects and make beekeeping impossible on the island.

Suggestions:

- Introduce organic practices to farmers
- When using agricultural chemical products to manage the olive groves, advise local beekeepers and spray during late afternoon or night
- Establish a system for composting olive pomace to enrich the soil

Greece

Syros, as well as the rest of the Cyclades, has a mountainous character, especially its northern part (Apano Meria), where the highest height of its mountains reaches 442 m. (Tower). The slopes of the mountains, mainly in the eastern part, are very steep. The soils have suffered a lot of erosion, because in addition to the steep shape of the erosion curve, the rains during the wet season of the year are often torrential in nature. Thus, to prevent soil erosion and to retain the soil on the slopes, the islanders created steps on most of the slopes, even if there was even a little soil left. In Ano Syros, the ravines on the eastern side are relatively short (from the water table to the sea), while on the western side the ravines and streams are much longer and penetrate deep into the exposed slate, where all the cultivated lands are located.

There is no continuous water in the streams. In Ano Syros there are only 2 sources of very small supply, The natural boundary between the northern and southern part of the island is the right bank of the stream that flows into the Kini bay, where there is a large sandy beach with a shallow sea. Another advantage of this beach is that the Pyrgos and Platos mountains protect it from the northerly winds (meltemia) which, as in all the Cyclades, blow with great ferocity. In contrast to Apano Meria in Kato (southern Syra) the relief is gentle, except for the steep slopes of the heights of Avgo, Vissa, Volaka, Kefalos, Races and Finikas. So the largest part of southern Syra is hilly and flat, and in addition, relatively large valleys were created between the hills and mountains, such as those of Livadia, Vari, Poseidonia, Phoinikas and Galissa, in which most of the crops are concentrated , especially horticulture. Still between the villages and settlements of Hrousa, Perdiki, Ano Mana, Talanta, Pagos and Parakopi, a small plateau forms, which is the most extensive smooth section of the island.

There are no springs and streams in southern Syra, but there are numerous wells. From a geological point of view, Syra belongs to the Pelagonic zone.

Syros does not receive much rainfall compared to other areas of mainland Greece. Most of it is covered by low and scrubby vegetation. In Syros one can find pine trees as well as tamarind trees in seaside areas. The flora of Syros is rich in aromatic plants, mainly thyme, fennel, sage and oregano, as well as capers can be found mainly in the southern part of the island where they are plants that are often found in the Cyclades.

Syros has a multitude of paths that lead to various parts of the island that are not accessible by car. Below are presented 6 of the most well-known paths, some of which lead to parts of the island of great historical importance and natural beauty.

Italy

The rainfall regime in recent years has changed markedly in seasonality and intensity: for long months there is no rain, followed by heavy rainfall that causes flooding and causes water to flow into the sea without having time to replenish the natural reservoirs. As a result of these changes, low rainfall dries up the soil, making it unsuitable for many crops, and heavy rainfall depletes the surface layer.

Those who work the countryside, under a monoculture regime and without rotation, experience a great depletion of soil fertility. The soil cultivation regime changed during the twentieth century when the last generation of old farmers, owners of a traditional knowledge of agricultural strategies and sustainable approaches in the cultivation system, abandoned the agriculture to the next generation of young farmers, that of the sixties and seventies. New farmers were interested in monoculture for income andmainly due to this choice, moved away from traditional practices, from crop rotation mainly.

The global change in climate has led to major problems on the island due to the temperature range of up to 50 degrees in the hottest period, a phenomenon that prevents fruit and vegetables from ripening normally. Conversely, other crops, e.g. vines, dry out on the vine due to the irregularity of rainfall, as do wild fruits, e.g. blackberries.

Martinique

The agriculture in Martinique is mainly composed of banana culture, cannes and garden vegetables. Most of the banana's production is exportation oriented.
So, me...I'm a tuber, a vegetable that grows in the ground, and my pet name is Dachine. I'm a bit of a vegetable chameleon in my house! When I'm taken out of the ground, my skin is brown, when I'm peeled, I'm white and when I'm cooked, I'm gray! For me to grow and feed the people of Martinique, I have to grow in a healthy environment. It's not so easy with the Chlordecone problem. You know, in the 70s, they used Chlordecone (a toxic pesticide used from 1972 to 1993 in the banana plantations) to combat a small insect, the weevil, whose larvae dug small holes in the banana bulb, weakening it. This pesticide was definitively banned in 1993, because it was actually dangerous to health. The soil on the plots where this insecticide was used is still polluted. Where I live, the soil is rich in organic matter and clay, so it retains the pesticide effectively and does not degrade. In fact, this pesticide is very persistent.
That's why I, Dachine, can't be planted just anywhere.

Good practices:
To keep contact with polluted soil to a minimum, we've adopted a particular way of planting: soilless cultivation. Crops that don't require much depth are planted and grown on recycled material, made from wooden pallets, plastic barrels..

Papua New Guinea

Morobe province in Papua New Guinea is known for its diverse soil types, including organic-rich volcanic soils, clayey soils, and alluvial soils.

These different soil types support a variety of crops, with the volcanic soils being ideal for crops such as coffee, cocoa, and oil palm, while the clayey soils are well-suited for growing vegetables and fruits. Additionally, the alluvial soils found along the riverbanks in Morobe province are perfect for cultivating rice and other grains. This soil diversity has led to a thriving agricultural industry in the region, with farmers successfully producing a wide range of crops to supply both local and international markets.

Portugal

Madeira Island is known for its unique soil characteristics. The island's volcanic origin has contributed to the formation of rich and fertile soils. The soil composition varies across different regions of Madeira, but in general, it consists of volcanic basaltic rock, which weathers and decomposes over time to create a well-drained and nutrient-rich substrate.

The presence of minerals in the soil, such as iron and magnesium, adds to its distinct reddish-brown color. This fertile soil, combined with the island's mild climate and ample rainfall, provides favorable conditions for agriculture. Madeira is renowned for its terraced vineyards, where grapes are grown for the production of the famous Madeira wine. Additionally, the island supports the cultivation of various crops, including bananas, sugar cane, and tropical fruits, making the most of its unique soil characteristics.

Tanzania

Pemba with the soil context framework; Community Forest Pemba (CFP) collaborates with the Ministry of Agriculture (MoA) through Agriculture Extension Agents to carry out soil testing & analysis to horticulture smallholder farmers (SHF) beneficiaries mainly vegetable farmers. This provides room for developing soil improvement plans.

Similarly, CFP Provides organic manure to the beneficiaries to improve soil fertility, In addition, we provide technical knowledge in Climate Smart Agriculture (CSA), Good Agricultural Practices (GAPs), Voluntary Sustainability Standards (VSS), Integrated Soil Fertility Management (ISFM) to increase both production and productivity of high-quality horticulture crops.

Lastly, CFP links the beneficiaries engaged in organic farming with the organic market who normally provides certification of the products through Voluntary Sustainability Standards (VSS). Currently, more than 300 SHFs have been organically certified through 1001 Organic Zanj Spice Ltd.

AGRICULTURE

Cabo Verde

According to Cabo Verde's agricultural census [Vº General Agricultural Census (RGA), 2015], agricultural land represented 9.0% of the country's land surface. The agricultural surface is 36,456 ha, of which 82.5% is exploited. Santo Antão is the second breadbasket of the archipelago with 7,790 ha. So, agriculture is one of the main economic activities in Santo Antão, where sugar cane is produced, used in the manufacture of "grog", a typical drink (rum) from Cabo Verde. Agricultural production also includes yams, cassava, beans, bananas, mangoes and corn. Although in terms of rainfall and water availability, there is always unpredictability each year, the trend is that over the last 20 years the situation has been getting worse, with less and less rain, more periods of drought and more water shortages.

In addition to the scarcity and limitation of alternative sources of water for agriculture, there are other problems such as:

- The incidence of crop pests and diseases, with emphasis on the millipede pest that, several decades ago, resulted in the island's products being embargoed;
- Food waste due to market failure and product transformation and processing techniques ➔ post-harvest losses;
- Weak development of agri-food chains, including livestock farming;
- Degradation of the health of agricultural soils.

All these problems lead to weak resilience and adaptation of agricultural activities to climate change, according to the Delegation of the Ministry of Agriculture and Environment in Ribeira Grande, Santo Antão.

Local activities done to respond to local issues

SYAH Cabo Verde also carried out a research based on the CRISTAL methodology, including a survey among farmers in some communities to assess the impacts of climate change on these communities.

The main impacts highlighted by the farmers were:

- Decrease in precipitation and irregularity in the annual rainy season;
- More frequent drought years;
- Increase in temperature that causes:

1. weakening of plants and increase in pests;
2. the warming of soils, which in turn makes it difficult for seeds to germinate;
3. decrease in the soil's ability to retain water for a long time;

All the above aspects have leaded to a decrease in the agricultural production, according to INE sources.

Suggestions:

Raising awareness among the rural population/producers on the issue of climate change, its impacts and forms of adaptation and resilience.

Carrying out more studies related to climate change leading to:

1. Investigation of possible changes in economic and social systems, under different climate scenarios ➔ better understanding of adaptation strategies and planning options for agriculture;
2. Effective climate information flow through appropriate dissemination channels;
3. Improved analysis of adaptation and mitigation technologies in the agriculture sector;
4. Partnerships with communities (incl. farmers), researchers and policy makers, so that technologies and planning processes are developed in partnership, engaging all stakeholders.

Farmers need greater access to technologies, markets, information, insurance and credit for investment to adjust their production systems and practices to climate change to build forward better after post-Covid-19 recovery and boost the green economy. SYAH Cabo Verde could train these farmers.

Promotion of *Climate Smart Agriculture*, which consists of an integrated approach to more resistant crops to climate change, associated to an efficient landscape management (agricultural land, livestock, forests and fisheries), which addresses the interconnected challenges to food insecurity and mal-nutrition, and the impacts of climate change.

Croatia

Agriculture is deeply rooted in the tradition of the island of Iž. Although today there are no more vineyards, people still produce their own wine, only from imported grapes. The old people still have a connection with the centuries-old olive trees that they cultivated and still visit, while people who no longer live on the island still come seasonally for the traditional family olive harvests. The favorite topic of discussion is the exchange of approaches to the care of olives, a topic on which everyone has their philosophy and something to say. Although, due to the predominantly elderly population and the neglected country, agricultural activity is at the lowest levels in history, there is great potential in an innovative, integral biological approach, as well as in adding value to the product through its processing. In combination with the growing mass tourism for which the island does not have the capacity, increasing the tourist offer and involving visitors in agricultural activities offers the possibility of revitalizing agriculture, as well as a significant shift from mass tourism to sustainable and thematic tourism, agrotourism, with which the economic profit from that branch is connected.

Suggestion:
Connect local producers either through a cooperative or through a special offer to sell products together through agritourism activities

Greece

Syros is one of the Cyclades islands in Greece, known more for its cultural heritage and picturesque towns rather than its agricultural output. However, agriculture still plays a role in the island's economy, albeit to a lesser extent compared to tourism and other sectors. The agricultural sector on Syros mainly focuses on traditional Mediterranean crops suited to the island's climate and terrain.

Some of the agricultural products grown on Syros include:
1. Citrus fruits: Citrus fruits like oranges, lemons, and mandarins are cultivated on the island due to the favorable climate.
2. Olives: Olive trees are abundant in Greece, including Syros. Olives are not only grown for their fruit but also for olive oil production, which is a significant part of the Greek economy.
3. Grapes: While not as prominent as in some other Greek islands like Santorini or Crete, Syros does have vineyards producing grapes for wine-making.
4.Vegetables: Various types of vegetables are grown on the island, including tomatoes, cucumbers, and peppers, both for local consumption and, to some extent, for export.

5. Herbs: Herbs like oregano, thyme, and sage are often grown in small quantities for culinary use and medicinal purposes.
6. Livestock: Although not as prevalent as crop farming, there might be some livestock farming on Syros, including sheep, goats, and poultry.

Organic or biological agriculture on Syros Island, like in many other parts of Greece, involves the cultivation of crops and the raising of livestock using methods that prioritize sustainability, environmental protection, and the avoidance of synthetic chemicals. While Syros is not as well-known for its agricultural production as some other Greek islands, there are undoubtedly efforts to promote and practice organic farming there.

Some characteristics of biological agriculture on Syros Island include:
1. Organic Crop Cultivation: Farmers grow a variety of crops using organic methods, including fruits, vegetables, grains, and herbs. These crops are cultivated without the use of synthetic pesticides, herbicides, or fertilizers.
2. Soil Health: Organic farmers on Syros would prioritize soil health through practices such as crop rotation, composting, and the use of organic soil amendments to maintain fertility and structure.
3. Natural Pest Management: Instead of relying on synthetic chemicals to control pests and diseases, organic farmers may use techniques such as beneficial insect habitat enhancement, crop diversification, and natural predators to manage pest populations.
4. Livestock Rearing: Organic livestock farming may also be practiced on Syros Island, with a focus on providing animals with access to pasture, organic feed, and natural living conditions. Livestock are raised without the use of growth hormones or antibiotics.
5. Certification: Farmers who adhere to organic standards may seek certification from accredited organizations to label their products as organic. This certification provides assurance to consumers that the products have been produced according to strict organic guidelines.
6. Local Initiatives: There may be local initiatives, cooperatives, or organizations on Syros Island dedicated to promoting organic agriculture, providing support and resources to farmers interested in adopting organic practices.

Overall, while organic agriculture may not be as prevalent on Syros Island as in some other regions, there are likely farmers and organizations working to promote sustainable farming practices and provide consumers with organic food options. However, it's important to note that the agricultural sector on Syros is not as significant as it once was, and many farmers have shifted to other occupations or have diversified their income by engaging in tourism-related activities. The island's limited arable land and relatively small size also constrain large-scale agricultural production.

Italy

Until the middle of the last century, agriculture was an important productive sector, especially wine-growing, thanks also to the establishment of cooperatives called Cantina Sociale, both in Sant'Antioco and in Calasetta, the island's two towns. Another driving sector of the island's economy, until the 1980s, was pastoralism: now almost completely abandoned, it survives thanks to a very few realities. Due to the opening of factories on the island and in the Sulcis area, the disaffection of young people for ancient trades and the exploitation of the land with the cultivation mainly of cereals, agriculture was gradually abandoned. Today, there is a revival of some crops, in which vines still stand out, thanks to some private wineries and the production of quality wines. In addition, some young people who have gained experience abroad, having returned to the island, are experimenting by putting into practice the techniques they have learnt: they are reintroducing crop rotation, safeguarding the plants and seeds best suited to the soil by avoiding hybridisation and carrying out permaculture experiments.

Martinique

At the same time, the population faces difficulties with purchasing power, as the prices are very high...Oh wait...
Hi, I'm Ti Milo! My granny and I are off to our local garden. We can plant anything we want! At school they teach us how to plant too, but with Grandma I'm discovering the methods she used before. We plant different varieties: tomatoes, pumpkins, lettuces, local onions and lots of other things. We do it not only because it allows us to meet other people and share know-how, but also because the cost of living is very high in Martinique, and with inflation it's not getting any better. Growing our own food is therefore a way of learning, working on our patience, and knowing what we're eating, using no chemicals, only natural fertilizers.

Best practices:
Shared garden: To enable everyone to grow their own vegetables, we have a system of shared gardens. It's not easy for people living in residential areas or who simply don't have the means to have their own garden. So they can take advantage of a nearby shared garden. It's an opportunity to learn from each other and to promote intergenerational learning.

Papua New Guinea

The land use has increased in recent decades: Papua New Guinea experienced a population increase from 2.3 million in 1975 to 5.2 million in 2000. Since 85% of the population relies on subsistence agriculture, population growth affects agricultural land use. Between 1975 and 2000, agricultural land use increased by 58% and population grew by 99%.

Most new agricultural land was taken from primary forest and the forest area decreased from 9.8 ha person1 in 1975 to 4.4 ha person1 in 2000. Total population change and total land use change were strongly correlated. Most of the agricultural land use change occurred in areas with high rainfall on moderate to very steep slopes (10–56%).

Portugal

Madeira Island has a diverse and thriving agricultural sector, taking advantage of its favorable climate, fertile soil, and varied topography.

The main agricultural activities on the island include:
1. Viticulture: Madeira is renowned for its production of fortified wine, also called Madeira wine. The island's terraced vineyards, often situated on steep slopes, cultivate grape varieties like Sercial, Verdelho, Bual, and Malvasia to produce different styles of Madeira wine.
2. Banana Cultivation: Bananas are a significant agricultural product in Madeira. The island's tropical climate, combined with rich volcanic soil, supports the growth of high-quality bananas. Many banana plantations are located on the lower slopes of the island.
3. Sugar Cane Production: Historically, sugar cane was a major crop on the island, contributing to its economic development. While its importance has diminished, some areas still cultivate sugar cane for local consumption and the production of traditional products like honey cake.
4. Tropical Fruits: Madeira's climate is conducive to growing a variety of tropical fruits, including passion fruit, guava, mangoes, and avocados. These fruits thrive in the island's rich and well-drained soil.
5. Vegetable Farming: Local farmers cultivate a range of vegetables to meet the island's domestic demand. The mild climate allows for year-round cultivation of crops like potatoes, tomatoes, lettuce, and carrots.
6. Floriculture: Madeira's flowers and ornamental plants are also an essential part of its agricultural output. The island is known for its vibrant and diverse flora, and flower cultivation, including orchids and other exotic species, contributes to the local economy.

Despite its small size, Madeira's agriculture plays a crucial role in sustaining the island's economy and providing fresh, locally produced goods. The terraced landscapes, traditional farming methods, and the integration of agriculture with the natural environment make Madeira's agricultural practices unique and characteristic of the island's identity.

Tanzania

Community Forest Pemba (CFP) is widely working with Smallholder farmers (SHFs) to transform them from subsistence to commercial farming (Agribusiness). This is done through the provision of various techniques and capacities on Climate Smart Agriculture, Good Agricultural Practices, Voluntary Sustainability Standards, Agribusiness skills in particular farmers are exposed to various intensive offsite and on-site training (through Farmer Field School approach) such as Efficient Irrigation systems and water management, Integrated Pests and Diseases Management, Managerial Practices, Making organic biopesticides (Mwokozi) and fertilizers (Bokash, compost), Post-Harvest Management and Business training.

Additionally, CFP also supports beneficiaries in the establishment and management of tree nurseries, the provision of high-quality seeds, seedlings, and cuttings, provision of water conservation technologies including water storage tanks, drip irrigation systems, trellising material, and solar dryers.

As part of the improving knowledge and skills improvement package, CFP also initiated the establishment of horticulture knowledge hubs (Climate Smart District Model farms), and demonstration plots within working districts across Zanzibar. CFP is enhancing farmers to engage into Value additional practices through the provision of knowledge and technologies (solar dryers...) to maintain quality, and consistency and reduce post-harvest losses of horticulture products. To ensure sustainability CFP is closely working with AEOs, Horticulture Farming Cooperatives, Key farmers and other Government-related

ENVIRONMENTAL CONSERVATION

Cabo Verde

Santo Antão Island, nestled within the Cabo Verde archipelago, harbors a diverse array of ecosystems, from lush forests to coastal habitats, each playing a vital role in supporting biodiversity and sustaining livelihoods. Environmental conservation efforts on the island are crucial for safeguarding its natural heritage, mitigating climate change impacts, and promoting sustainable development practices.

Biodiversity Conservation:
Santo Antão Island boasts rich biodiversity, with endemic flora and fauna species found nowhere else on Earth. Conservation initiatives focus on protecting endemic species, preserving habitats, and restoring degraded ecosystems. The Parque Natural de Cova - Paúl - Ribeira da Torre, a protected area on the island, serves as a sanctuary for endemic plants and animals, offering opportunities for research, ecotourism, and environmental education.

Reforestation and Afforestation:
Deforestation and land degradation pose significant threats to the island's ecosystems, exacerbating soil erosion, loss of biodiversity, and climate change impacts. Reforestation and afforestation projects aim to restore degraded landscapes, mitigate soil erosion, and enhance carbon sequestration. Planalto Leste is an example of a man-made forest that has improved the island's biodiversity. Community-based reforestation initiatives regularly engage local residents in tree planting activities, fostering stewardship of natural resources and promoting sustainable land management practices.

Marine Conservation:
The coastal waters surrounding Santo Antão Island are home to diverse marine life, including coral reefs, fish species, and marine mammals. Marine conservation efforts focus on protecting marine habitats, combating illegal fishing activities, and promoting sustainable fisheries management practices. Marine protected areas around the island could be created, aiming to preserve marine biodiversity, enhance ecosystem resilience, and support sustainable livelihoods dependent on marine resources.

Sustainable Tourism and Ecotourism:
Tourism plays a significant role in Santo Antão Island's economy, providing opportunities for economic growth and employment. Sustainable tourism and ecotourism initiatives promote responsible travel practices, minimize environmental impacts, and support local communities. Ecotourism activities, such as hiking, birdwatching, and nature tours, offer visitors immersive experiences in the island's natural beauty while contributing to conservation efforts.

Community Engagement:
Environmental conservation efforts in Santo Antão Island prioritize community engagement, empowering local residents as stewards of their natural environment. Capacity building programs provide training and resources to enhance environmental awareness, sustainable land management skills, and community resilience to climate change. Collaborative partnerships between government agencies, non-profit organizations, academia, and local communities drive collective action towards achieving conservation goals.

This comprehensive approach to environmental conservation in Santo Antão Island reflects a commitment to preserving its natural heritage, fostering sustainable development, and ensuring a resilient future for generations to come.

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Greece

At the level of the European Union, it has been established that the general state of conservation of a certain number of habitats and species, so-called community interest (Special Conservation Areas), is progressively deteriorating with the risk of leading to an irreversible loss of a significant part of biodiversity. To prevent this risk, it was deemed necessary to establish an ecologically coherent network that would ensure the areas where these habitat types and endangered species occur.

This is the 'NATURA 2000' network – a European Ecological Network of Special Conservation Areas. Its creation was foreseen by article 3 of Directive 92/43/EEC of the European Council of May 21, 1992 *"on the conservation of natural habitats as well as wild flora and fauna"* and is carried out in the following three phases:

1. Inventory of habitats and species appearing in Annexes I and II of the Directive in the territory of each member state.
2. Proposal, based on the census, of a list of places (areas) where the above types of natural habitats and habitats of species are found (National List of Sites).
3. Evaluation, at national level, of the above sites based on the criteria of Annex III of the Directive, in terms of their relative importance for each type of habitat and each species of Annexes I and II. Creation, by agreement between the member states and the European Commission a List of Sites of Community Importance.

Official designation of Sites of Community Importance as Special Areas of Conservation by the member states and determination of priority actions for the conservation and/or restoration of the types of habitats and the species of the Annexes of the Directive present in them, depending on the risks they face.

According to the IUCN (International Union for Conservation of Nature) definition, a protected area is: "An area of land or sea, dedicated to the protection and conservation of biological diversity and natural and related cultural resources, which is subject to management by legal means or other effective ways."

The **Special Protection Areas (ZEP)** (Special Protection Area - SPA) are extensive areas, which have been defined in accordance with the guidelines of Directive 79/409/EEC "on the conservation of wild birds", which was adopted in April 1979, into force in April 1981, with the aim of ensuring the survival and reproduction of avian species - migratory and non-migratory - and their habitats (habitats) in the European area. These areas can be characterized as protected and are included in the European ecological network "NATURA 2000" in accordance with Directive 92/43/EEC. The **Special Areas of Conservation (EZD)** (Special Area of Conservation – SAC).
They are areas that have been assessed by each member state for their importance in relation to the conservation of animal and plant species of Community interest and have then been evaluated and selected based on their Community importance.

Directive 92/43/EEC stipulates that the state is responsible for maintaining the types of habitats and species of the Directive in the desired state of conservation.

To achieve this, simultaneously with the definition of the **Special Conservation Zones**, the necessary measures are taken, which are either specific management plans for each area or measures integrated into other settlement plans (e.g. land uses). The necessary regulatory, administrative or other measures are also taken to protect the above types of habitats and species. There is no predetermined "method of protection" from the Directive and when it is harmonized by each member state, the means and procedures that will be used to take the necessary measures are defined. The objective of the Directive is to preserve biodiversity, which in turn is one of the key components of sustainable development. According to the Directive, when taking measures in Special Conservation Zones, economic, social and cultural requirements as well as regional and local peculiarities are taken into account.

Therefore, the philosophy of the Directive is based on the two-way principle that we cannot manage an area if we do not protect it and we cannot protect an area if we do not manage it properly.

The **NATURA 2000 network** in a country that is an ecological and cultural reserve, such as Greece, marks the opportunity for the convergence and convergence of sustainable development policies. The intangible resources that are largely contained in network sites, such as groundwater, coastlines, landscape and wildlife are a major contribution to the country's future. As far as funding is concerned, the Directive has foreseen the creation of an appropriate mechanism, which our state intends to use to the greatest extent possible. According to the procedure foreseen by the Directive, the estimates of our state regarding the amounts required to meet its obligations in the areas where habitat types and priority species appear are sent to the European Commission.

In this way, the protection, management, promotion and operation of the areas of the NATURA 2000 network is a key axis in the formulation of the Operational Programs of both the Community Support Framework (2000 – 2006) and the National Strategic Reference Framework (2007 – 2013).

The inclusion of an agricultural site in the NATURA 2000 network is usually due to the fact that despite the development of agriculture in recent years, natural habitats and species have been preserved at least in small local enclaves. In these areas, a change in cultivation methods should be avoided. In other areas, such as those adjacent to wetlands, a change in the agricultural production system will be the main management concern for the benefit of conservation. Particular problems are also created with the possible abandonment of mountain crops that lead to the degradation of biological diversity. During the implementation of the agro-environmental regulation 2078/92/EEC, special care is taken for the areas of the NATURA 2000 network.

The sites of the NATURA 2000 network, as a rule, do not currently constitute touristic developed areas. Through the control of new activities and internal zoning, a strict limitation on the degradation of natural habitats and species and a compatible development of mild leisure and tourism activities will be attempted, so that visitors can enjoy the natural environment and be informed about its value. area. The ecological network can and should also be a cultural network of superior quality. (Source: "The habitats directive and the NATURA 2000 network", Ministry of Agriculture and Rural Development)

Protected areas in Greece

For the designation of the areas as protected according to the national legislation (law 1650/86, as valid after its amendment by law 3937/2011), it is necessary:

1. For the characterization, demarcation and determination of land uses and activities of an area as Absolute Nature Protection, Nature Protection and National Park, the issuance of a Presidential Decree, following a proposal by the Minister of Environment, Energy and Climate Change, following the opinion of the **"Nature Committee 2000"** and the General Secretary of the relevant Decentralized Administration, in implementation of a special environmental study (E.P.M.). The assignment of the pension E.P.M. and its final approval is carried out by a decision of the Minister of Environment, Energy and Climate Change.

2. For the characterization, demarcation and determination of building conditions, land uses and activities of an area as a **Regional Park** , the issuance of a Presidential Decree, following a proposal by the Minister of Environment, Energy and Climate Change, following the opinion of the **"Nature 2000 Committee"** and the General Secretary of the relevant Decentralized Administration, based on a special report documenting its ecological importance and protected values. Especially for the designation of rural areas of high natural value as regional parks, the presidential decree is issued on the proposal of the Ministers of Rural Development and Food and Environment, Energy and Climate Change. Especially for the designation of marine areas as regional parks, the presidential decree is issued on the proposal of the Ministers of Marine Affairs, Islands and Environment, Energy and Climate Change.

3. For the designation of an area as a Wildlife Refuge, a decision is issued by the Secretary General of the relevant Decentralized Administration, based on a special report documenting the ecological or other natural value of the area.

4. For the designation of an area as a Protected Landscape or as a Protected Natural Formation, a decision is issued by the General Secretary of Decentralized Administration based on a special report that documents the ecological or other natural value of the protected object and the opinion of the elected Regional Governor.

Protected areas can be managed by Management Bodies or existing public services, special services and NPDD or bodies designated for this purpose by management contracts (law 2742/99).

Five-year management plans for the protected areas are also drawn up. With these plans, the directions and priorities for the implementation of the projects, actions and measures required for the effective protection and management of the protected objects as the case may be are determined, within the framework of the general terms and conditions, set in the declaration legislation.
The Management Plans are accompanied by action plans.

Syros and NATURA 2000
The pan-European network of NATURA 2000 protected areas consists of two categories of areas, **Special Areas of Conservation** (SAC), formerly known as Sites of Community Importance, and which are defined based on the types of habitats and the species of plants and animals referred to in Directive 92/43 /EEC (known as the Habitats Directive), and the **Special Protection Zones** (SPAs) for avian fauna and which are defined based on the bird species listed in Directive 79/409/EC (known as the Birds Directive).

In many cases, there are overlaps of the two types of protected areas within a geographical unit, as an ecologically important area may fulfill the criteria for being classified as both types of protected areas. Something similar happens in Syros: the EEZ for Syros (name: Mount Syringas to the coast) is smaller in area than the ZEP of Syros (Northern Syros and islets) and its geographical limits are included within the ZEP.

What is of management importance, therefore, is that the whole of Northern Syros, as defined geographically by the boundaries of the SPA, is included in the NATURA 2000 Network. This means that the ZEP are also Natura areas and have the same protection status.

Syros, Apano Meria and the surrounding islets
• BARBARAUSA ISLAND
• DIDYMI ISLAND
• SHINONISI ISLAND
• ROUND ISLAND (LIGHTHOUSE or GAIDOURONISI)
• KOMMENO ISLAND
• ROUND ISLAND (COMITO)
• ASPRONISI ISLAND

Martinique

In Martinique, several environmental conservation practices are implemented, such as:

- the protection of coastal zones,
- the preservation of terrestrial ecosystems,
- the promotion of sustainable agriculture,
- waste management,
- raising awareness of the importance of biodiversity.

Reforestation initiatives and the protection of endangered species are also carried out to preserve the island's natural wealth.

Papua New Guinea

Externally, PNG is receiving inputs through UNDP: UNDP's forestry management projects are enhancing forest carbon stocks, developing new financial mechanisms to reduce deforestation and maintain the tropical forest that covers approximately 75% of the country at present. UNDP is also working with the government on finalization of the National Climate Change Adaptation Plan. Transformative change for the future of the country is a priority. The UN Decade on Ecosystem Restoration aims to prevent, halt and reverse the degradation of ecosystems on every continent and in every ocean. But also there are traditional practices still performed: soil-retaining fences, ditch, mounts and composting practices. In contrast, other traditional practices were not conservational but luckily they are shading away.

Tanzania

This is one of the CFP focus areas and the reason for its establishment. CFP has played a vital role in environmental conservation and protection through Community awareness and mobilization programs, the Provision of planting materials, the provision of knowledge and skills related to forest nursery establishment and management, the provision of alternative livelihood programs to reduce pressure on natural resources utilization; These livelihood programs include; beekeeping program, horticulture production techniques including agroforestry production system, Alternative energy sources, and rainwater harvesting. CFP is also working to support the establishment and strengthening of Community Forests Management Agreements (COFMAs) and Shehia Conservation Committees, and the provision of planting material; seedlings for the establishment of woodlots, and restoration of deforested areas.

RENEWABLE ENERGY

Croatia

Regarding the potential the island of Iž is having, due to the high number of sunny days during the year, we could say that there is huge potential for using solar power that would be sufficient for the electricity needs of the island and the neighboring islands. The City of Zadar together with the Croatian national electricity company HEP d.d. recognized the potential and is in the process of building the Veli Iž solar power plant with a capacity of 4,990 MW where the annual production of electricity is planned for about 8,562.00 MWh/year.

The installation of a large solar power plant is a capital project for the development of the use of renewable energy sources, however, among local young entrepreneurial initiatives, in the year 2023 project is being developed on the island for the use of renewable energy sources from briquettes for heating in the winter season, which lasts for 5 months. The initiative is based on the fact that the neglect of forest roads, paths, and overgrown olive trees is combined with their cleaning and conversion into briquettes that can be used for heating.

Italy

Energy production through renewables is practically non-existent. At present, there are no clear programmes for energy efficiency in homes and private activities: it is difficult to find companies equipped to produce quotations and interventions on the island, and those who have tried to self-finance do not receive the assumed energy savings. On no socio-political occasion is the issue of energy communities addressed, despite the (scarce) regional incentives available for feasibility studies for the island's two municipalities.

The inhabitants' perception is that the biggest problem is represented by the off-shore wind farm project, seen as industrial speculation and not of interest to the island, in the marine protected area near the two islets of the archipelago (the Vacca and the Toro), which are areas of relevant interest (ZPS), as they are located along the bird migration routes, 8 km from the southern coast of the island.

The Italian government's Ministry of the Environment has identified this area for the installation of the above-mentioned off-shore wind farm, granting

concessions to private companies, to generate a power of 292.8 MW (292.8 equal to 1/5 of the maximum power required by the entire island of Sardinia in a ratio of 13,400 local inhabitants to 1,640,000 inhabitants: 22 times the maximum power per capita of each inhabitant of the island of Sant'Antioco).

A large part of the population is opposed to this initiative, perceived as a speculative operation that would irreparably disfigure the landscape, marine biodiversity and entire islands, even though they share the need to address the problem of energy efficiency in the area.

Papua New Guinea

Although Papua New Guinea relies mostly on fuel oil and diesel to generate electricity, it holds an abundance of gas, geothermal, hydro and solar energy potential. The Government of Papua New Guinea has set a target of connecting 70% of Papua New Guinea's population to renewable electricity by 2030. The total installed electricity capacity of PNG is 580 MW which includes hydro (39%), diesel (37%), natural gas (14%) and geothermal (10%).

Portugal

Madeira Island places significant emphasis on environmental conservation, recognizing the importance of preserving its unique ecosystems and biodiversity. The commitment to preserving its natural beauty and unique ecosystems contributes to the island's resilience and sustainable future.

Here's a brief overview of environmental conservation efforts on the island:
1. Natural Parks: Madeira has established natural parks to protect and conserve its diverse landscapes. The Madeira Natural Park, which covers a substantial portion of the island, aims to safeguard the native flora and fauna, including unique laurel forests.
2. Laurel Forests: Madeira is home to laurel forests, a UNESCO World Heritage site. These ancient forests are carefully preserved, and conservation efforts focus on maintaining the delicate balance of this ecosystem.
3. Endemic Species Protection: The island is dedicated to the protection of its endemic plant and animal species. Efforts are made to prevent the introduction of invasive species that could threaten the native flora and fauna.
4. Biosphere Reserve: Madeira has been designated as a UNESCO Biosphere Reserve, recognizing its commitment to sustainable development that balances environmental conservation, economic development, and social well-being.

5. Waste Management: Madeira promotes waste reduction and recycling initiatives to minimize environmental impact. Efforts are made to raise awareness about responsible waste disposal and encourage sustainable practices.
6. Sustainable Tourism: As tourism is a vital part of the local economy, there is a focus on sustainable tourism practices. This includes promoting eco-friendly activities, responsible hiking, and nature-based tourism that respects the natural environment.
7. Water Conservation: Given the importance of water resources, conservation efforts target responsible water usage and the protection of freshwater ecosystems. Initiatives include promoting water-saving practices and protecting water sources.
8. Climate Action: Recognizing the challenges posed by climate change, Madeira has initiatives to reduce carbon emissions and adapt to changing climate conditions. This includes promoting renewable energy sources and sustainable practices in various sectors.

Tanzania

RENEWABLE ENERGY
CFP has been working with other partners and stakeholders to support the community to access alternative energy sources.
Including:

- The provision of solar panels to small islets and other communities such as Fundo, Kokota, Njao, Shamiani, Pujini, and Vitongoji.
- Awareness training and provision of improved sufficient cooking stoves
- Provision of rechargeable solar lamps.
- Research on the production of quality and efficient charcoal through an improved charcoal production system. Still, research continues.
- Awareness and support communities on the use of briquettes

HEALTH

Cabo Verde

Access to health services and healthcare delivery in Santo Antão Island, Cabo Verde involve unique challenges due to its remote location, mountainous terrain, and limited resources. Despite these challenges, efforts are underway to improve health outcomes, enhance healthcare infrastructure, and address the diverse healthcare needs of the island's population, led by the Health Region of Santo Antão, which depends on the Ministry of Health.

Healthcare Infrastructure:
The healthcare infrastructure on Santo Antão Island comprises a network of health centers, dispensaries, and hospitals, providing primary, secondary, and tertiary care services. Health centers, located in urban and rural areas, offer basic healthcare services, including preventive care, maternal and child health, and treatment of common illnesses. The Hospital Regional João Morais, located in Ribeira Grande, serves as the main referral hospital on the island, equipped with medical facilities and specialized services.

Healthcare Challenges:
Santo Antão Island faces various healthcare challenges, including limited access to healthcare facilities, shortages of medical personnel and supplies, and inadequate healthcare financing. The island's rugged terrain and lack of transportation infrastructure pose logistical challenges, hindering access to healthcare services, particularly in remote and underserved areas. Health disparities exist among different communities on the island, with marginalized populations facing barriers to healthcare access and quality due to socioeconomic factors and cultural beliefs.

Health Services:
Healthcare services on Santo Antão Island encompass a range of medical specialties, including general medicine, pediatrics, obstetrics, gynecology, dentistry, and internal medicine. Medical professionals, including doctors, nurses, midwives, and community health workers, play vital roles in delivering healthcare services and promoting health education and awareness.

Health Evacuations:
Given the island's remote location and limited healthcare infrastructure, health evacuations are occasionally necessary for patients requiring specialized medical treatment or emergency care unavailable locally.

Medical evacuations involve boat or airlifting patients to hospitals on the nearby islands of São Vicente or Santiago, where advanced medical facilities and specialized healthcare services are available. Coordination between healthcare providers, emergency response teams, and transportation services is essential to ensure timely and safe health evacuations, particularly for critical cases.

Public Health Challenges:
Public health challenges on Santo Antão Island include infectious diseases, maternal and child health issues, malnutrition, and non-communicable diseases (NCDs) such as diabetes and hypertension. Efforts to address public health challenges involve disease surveillance, vaccination campaigns, health education programs, and promotion of healthy lifestyles and behaviors.

Health Promotion and Community Engagement:
Community engagement and participation are integral to promoting health and well-being on Santo Antão Island. Community health volunteers and local organizations play active roles in health promotion activities, including disease prevention, hygiene education, nutrition programs, and reproductive health initiatives. Health promotion and disease prevention efforts play a crucial role in improving public health outcomes on Santo Antão Island. Public health campaigns, community outreach programs, and educational initiatives raise awareness about preventive measures, vaccination campaigns, and hygiene practices to reduce the burden of communicable diseases. Collaborative partnerships between government agencies, non-profit organizations, and community stakeholders drive initiatives aimed at promoting healthy behaviors and lifestyles, tackling prevalent health issues such as obesity, diabetes, and hypertension.

Maternal and Child Health:
Maternal and child health services are prioritized to reduce maternal and infant mortality rates and improve birth outcomes on Santo Antão Island. Antenatal care, skilled birth attendance, and postnatal support services are provided to pregnant women and newborns, aiming to ensure safe deliveries and promote maternal and child well-being. Efforts are made to increase access to family planning services, reproductive health education, and nutrition support to address maternal and child health needs comprehensively.

Despite challenges posed by geographical constraints and limited resources, efforts to enhance healthcare services, strengthen healthcare systems, and promote community engagement are essential for improving health outcomes and ensuring the well-being of residents on Santo Antão Island.

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Italy

It is difficult to establish the general health conditions of the inhabitants: on the one hand, there are over 90-year-olds, some of whom are in very good condition and self-sufficient, and on the other, a high number of deaths from cancer, which causes the population to be increasingly concerned about the pollutants from the Portovesme industrial complex and the NATO military base at Capo Teulada. In the latter situation, frequent exercises are carried out, which have increased since the start of the Ukrainian conflict: for example, the NATO Noble Jump 2023 took place in the spring, in which 2,000 military personnel and substantial vehicles from seven Atlantic Alliance nations took part.

Despite a health system guaranteed by an advanced national law, there is a serious lack of general practitioners on the island, as well as a historical shortage of public health facilities and medical equipment in the province of South Sardinia, further aggravated by the political choices of recent years.
To cope with the emergency, some local administrators have proposed upgrading a first aid center located in the town of Sant'Antioco.

Papua New Guinea

The health of the lithosphere is damaged especially with incorrect practices and land consumption. About 75% of PNG's population are living in rural areas and most are dependent on their lands for subsistence farming. Continued land cultivation for farming has degraded the environment and most often contributed to soil erosion, landslides, and loss of soil fertility.

Portugal

Madeira, being an autonomous region of Portugal, benefits from the Portuguese healthcare system. The region has modern medical facilities, well-trained healthcare professionals, and access to a range of medical services. Here are some key points regarding the health situation in Madeira:

Healthcare System: Madeira has a public healthcare system that provides medical services to residents. Additionally, there are private healthcare facilities and clinics available on the island.

Hospitals and Clinics: Funchal, the capital of Madeira, is home to the main hospital, Dr. Nélio Mendonça Hospital, which offers a variety of medical services. There are also health centers and clinics distributed across the island to cater to the healthcare needs of the population.

COVID-19 Response: Like many regions worldwide, Madeira has been affected by the COVID-19 pandemic. Authorities have implemented measures to control the spread of the virus, including testing, contact tracing, and vaccination campaigns. The situation regarding COVID-19 can evolve, so it's crucial to refer to the latest information from health authorities.

Preventive Measures: Public health initiatives in Madeira include efforts to promote healthy lifestyles and preventive measures. These may include vaccination programs, health education, and campaigns to address specific health issues.

Access to Healthcare: The geographic distribution of healthcare facilities on the island aims to ensure that residents have reasonable access to medical services. Telemedicine and digital health solutions may also be utilized to enhance healthcare accessibility.


ATMOSPHERE
Atmosphère
ατμόσφαιρα
Atmosfera
Angahewa
Air
Renewable energy
Health

Cabo Verde

Santo Antão Island, located within the Cabo Verde archipelago, generally enjoys good air quality due to its remote location in the Atlantic Ocean and limited industrial activities. However, like many other regions, it faces challenges related to air pollution from various sources, including transportation, biomass burning, and dust storms.

Transportation Emissions:
The primary source of air pollution on Santo Antão Island is vehicular emissions, particularly from diesel-powered vehicles and motorcycles. In urban areas such as Porto Novo, the capital city, traffic congestion and vehicle exhaust contribute to elevated levels of particulate matter (PM), nitrogen oxides (NOx), and carbon monoxide (CO) concentrations, especially during peak traffic hours.

Biomass Burning:
Agricultural activities, including crop residue burning and land clearing practices, can contribute to localized air pollution episodes, particularly during the dry season. Open burning of biomass materials releases pollutants such as fine particulate matter (PM2.5), volatile organic compounds (VOCs), and greenhouse gases, impacting air quality and human health, especially in rural areas.

Dust Storms:
Santo Antão Island, characterized by rugged terrain and arid landscapes, is susceptible to dust storms, especially during periods of drought and strong winds. Saharan dust events, carried by trade winds from the Sahara Desert, can significantly degrade air quality, leading to elevated levels of airborne particulates and respiratory health risks for residents.

Monitoring and Mitigation:
Monitoring air quality is essential for assessing pollution levels, identifying sources of contamination, and implementing mitigation measures. The Cabo Verdean government, in collaboration with international partners, has established air quality monitoring stations to monitor pollutants and assess their impact on public health and the environment.

Mitigation strategies include promoting cleaner transportation technologies, enforcing regulations on vehicle emissions, implementing sustainable land management practices to reduce biomass burning, and raising awareness about the importance of air quality protection among the population.

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Croatia

Although the air quality is mostly good throughout the year due to the Mediterranean climate, the sea, and the flora and fauna on the island of Iž, in the winter the air quality deteriorates primarily due to the use of wood as fuel for house heating. But a bigger problem is the burning of wood that is not intended for burning and heating (glued wood, lacquered wood, parquet, furniture, etc.). Namely, we have to look at this problem from the perspective of demography, population aging and economy, and the paying power of the island's inhabitants. Namely, due to the lack of financial resources, the elderly population cannot buy firewood, so they burn materials that emit particles that damage the air quality and, consequently, the health of the residents. Due to specific air currents during the winter, exhaust gasses and particles remain in low-lying parts of the island and inhabited places in bays.

Suggestions:

- Organize an information and awareness raising campaign about the harmfulness of burning treated and varnished wood
- Install air filters in chimneys

Greece

Air pollution in Syros is an issue with multiple aspects and concerns.

Sources of pollution:

• **Neorio Shipyard:** The operation of the shipyard is one of the main sources of pollution on the island. Sandblasting ships, burning fuel and transporting materials emit pollutants into the atmosphere.

• **Traffic:** Increased vehicular traffic, especially during the summer months, contributes to air pollution with suspended particles and gases.

• **Quarries:** The operation of quarries on the island emits dust and suspended particles into the atmosphere.

• **Burning wood:** Burning wood for heating and cooking emits pollutants such as soot and carbon monoxide.

Implications:

• **Public health:** Air pollution can adversely affect the health of residents, causing respiratory problems, cardiovascular diseases and more.

• **Environment:** Air pollution can harm the environment, affecting air, water and soil quality.

• **Tourism:** Poor air quality can negatively affect the tourism development of the island.

Counter measures:

• **Installation of pollution meters:** The South Aegean Region has installed pollution meters in Syros, which record the levels of pollutants in the atmosphere.

• **Enforcing environmental conditions:** The competent agency of the Region imposes environmental conditions on polluting businesses, setting limits on pollutant emissions.

• **Information and awareness:** Information events and public awareness campaigns are organized about the problem of air pollution.

Conclusion:

Addressing air pollution in Syros is a collective effort. Cooperation is required from everyone, from the relevant authorities and businesses to citizens, to adopt environmentally friendly practices and protect public health.

Italy

Until the 1990s, a factory operated at the entrance to the town with a very high level of air and soil pollution, which was part of an industrial complex covering some 40 hectares. At present, there are no significant polluting factors, except for the proximity of some critical situations that, although not located on the island, are also being investigated by the judiciary because they could have an impact on air quality: the Portovesme industrial center and the Capo Teulada NATO base.

In addition to this, the sewage treatment plant, especially in summer, given the increase in the population due to tourism, and during heavy rainfall, causes overflows from manholes and the sea, which give off unpleasant odors into the air. In addition, there is an increasing presence of sand in the air during strong sirocco storms.

Martinique

Martinique is a tropical region, where the weather is hot and humid, and a little cooler at the end of the year.On the other hand, Martinique is affected by a phenomenon known as "sand fog". The transport of particles from the African desert to the West Indies is explained by the presence of thermal depressions over the Sahara, which generate turbulent winds and thus suspend particles. These very fine particles of Saharan origin enter the pulmonary alveoli. Nasal discharge, breathing difficulties, blocked sinuses, asthma attacks, stinging eyes... tha sand haze complicates the lives of vulnerable people.

Portugal

Madeira Island is generally known for its good air quality. The island is characterized by its natural beauty, with lush landscapes and clean environments. The relatively low population density and limited industrial activities contribute to favorable air quality conditions.

RENEWABLE ENERGY

Cabo Verde

Renewable Energies in Cabo Verde cover around 25% of the energy needs of the country and the government has the target to reach 50% of the energy produced by 2030. Santo Antão Island has been actively pursuing renewable energy initiatives to reduce dependence on fossil fuels, mitigate climate change impacts, and promote sustainable development. The island's abundant natural resources, coupled with strategic policies and investments, have facilitated the adoption of various renewable energy technologies, ranging from domestic solutions to larger-scale projects. Given the island's dispersed population and rugged terrain, decentralized renewable energy systems could play a crucial role in providing reliable electricity access to remote communities.

Solar Energy:
Santo Antão Island benefits from ample sunlight throughout the year, making solar photovoltaic (PV) systems a key renewable energy source. Solar panels shall be installed on rooftops, open land, and utility-scale solar farms to harness solar energy for electricity generation. Off-grid solar systems provide electricity access to remote communities, schools, health clinics, and agricultural facilities, improving livelihoods and enhancing resilience. This is the case of the remote community of Monte Trigo, in Porto Novo municipality.

Wind Energy:
The island's coastal and mountainous terrain creates favorable conditions for harnessing wind energy through wind turbines. Small and medium-scale wind farms could be strategically located to capture wind currents and generate electricity for local consumption and grid integration. Wind energy complements solar power, providing a reliable renewable energy source, especially during periods of low solar irradiance or at night.

Domestic Energy Solutions:
The use of clean cooking technologies is spread throughout the island, and an important segment of the population has access to LPG. Firewood and charcoal are still used by some communities and there is a need to promote improved cook stoves and alternative cooking devices. Renewable energies, including domestic energies empower households, businesses, and public facilities to meet their energy needs sustainably, reducing reliance on centralized grid infrastructure.

Biogas and Biochar Production:
Biogas production from organic waste presents an opportunity to generate clean energy while addressing waste management challenges on Santo Antão Island. Anaerobic digesters could be employed to convert organic residues, such as agricultural waste and animal manure, into biogas, a renewable fuel suitable for cooking, heating, and electricity generation. Additionally, biochar production processes, which involve converting biomass into a stable form of charcoal through pyrolysis, offer benefits such as soil fertility enhancement and carbon sequestration while producing renewable energy.

Hydropower Potential:
Despite its limited availability of surface water resources, Santo Antão Island possesses untapped hydropower potential, particularly in its mountainous regions. There is one dam, 'Canto de cagarra' in the Garça Valley, and others could be built, namely underground dams. Micro-hydroelectric systems harness the energy of flowing water from natural streams and underwater reservoirs to generate electricity, providing a sustainable energy source for rural communities.

Government Initiatives and policies:
The Government of Cabo Verde has prioritized renewable energy development as part of its national energy strategy, aiming to increase the share of renewable energy in the country's energy mix. Initiatives such as the Sustainable Energy for All (SE4All) program and the Renewable Energy Plan promote investment in renewable energy projects, capacity building, and technology transfer. Policy measures, including feed-in tariffs, tax incentives, and regulatory frameworks, support the deployment of renewable energy technologies and encourage private sector participation in the sector.

The adoption of renewable energy technologies in Santo Antão Island underscores a commitment to sustainable energy development, resilience, and energy independence, contributing to the island's socio-economic advancement and environmental stewardship.

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Croatia

Due to legal restrictions, it is not possible to build wind farms on the island of Iž.

Greece

DEI, the largest energy producer in Greece, has been present on Syros since 1956. The company manages the Syros NPP, an oil-fired power station, which supplies the island with electricity. However, in recent years, DEI has turned to the development of renewable energy sources (RES) in Syros.

More specifically:

- **Photovoltaics:** DEI has installed 4 photovoltaic parks on the island, with a total power of 3.7 MW.
- **Wind energy:** The company has received a license to install 2 wind farms in Syros, with a total capacity of 18 MW.
- **Hydroelectricity:** DEI is studying the utilization of the island's water potential for the production of hydroelectricity.

DEI's shift towards RES in Syros is part of the company's general strategy for de-lignitization and the shift towards clean forms of energy.

Advantages:

- **Reducing the environmental footprint:** The development of RES in Syros will contribute to the reduction of pollutant emissions and the fight against climate change.
- **Energy Independence:** The shift to RES will help Syros reduce its dependence on fossil fuels and increase its energy autonomy.
- **Job creation:** The development of RES on the island will create new jobs in the areas of installation, operation and maintenance of RES.

Photovoltaic parks in Syros
A first for the Cyclades...

These two "parks" - which respectively belong to XYLOTECHNIKI S.A. and in HEFAISTOS - Leonard A. Roussos - are based in Syros and had a common path, as the investment plan for their implementation was submitted to the Operational Program COMPETITIVENESS - Measure 6.5 "Promoting the penetration of RES systems in the country's energy system" in January 2006.

After their evaluation and their successful inclusion for financing, the two companies (along with the other successful candidates of the South Aegean Region) signed the relevant contract with the Hellenic Development Company - ELANET (Intermediate Agency of the Program) in April 2007.

According to data from the Municipality of Syros-Ermoupolis, until July 2023, 9 photovoltaic parks will operate on the island, which will produce energy with a total power of approximately 13.5 MW. In addition to the parks that are already operating, there are others that are in the licensing or construction phase. It is important to emphasize that the development of photovoltaic parks in Syros is part of the shift towards RES, with the aim of reducing the environmental footprint and strengthening the island's energy autonomy.

Advantages:

- **Reducing the environmental footprint:** Photovoltaic parks do not produce pollutants, contributing to the protection of the environment and the fight against climate change.
- **Energy independence:** The production of energy from RES in Syros reduces the dependence on fossil fuels and increases the energy autonomy of the island.
- **Job creation:** The installation and operation of solar parks creates new jobs.

Challenges:

- **High cost:** The cost of installing and operating solar farms can be higher than the cost of conventional energy sources.
- **Integration into the grid:** Integrating the generated energy into the grid can be a challenge, especially on small islands like Syros.
- **Landscape alteration:** The installation of solar farms can alter the landscape, particularly in areas of natural beauty.

Conclusion:

Despite the challenges that exist, the development of photovoltaic parks in Syros is an important development with multiple benefits for the island. The shift towards RES is necessary to protect the environment, strengthen energy security and create new jobs.

Challenges:

- **High cost:** The cost of installing and operating RES can be higher than the cost of conventional energy sources.
- **Integration into the grid:** Integration of RES into the grid can be a challenge, especially on small islands like Syros.
- **Environmental impacts:** RES development can have environmental impacts such as landscape alteration and bird predation.

Portugal

Madeira island has favorable conditions for renewable energy generation, including wind and solar power. Madeira has invested in wind farms and solar installations to harness its abundant natural resources for sustainable energy production. Additionally, there have been initiatives to explore the potential of hydropower and other renewable sources. The adoption of renewable energy in Madeira aligns with global efforts to reduce carbon emissions and transition towards cleaner energy sources

HEALTH

Martinique

Squeezy! It's me! Why? Very fine particles of Saharan origin enter the pulmonary alveoli. Runny noses, difficulty breathing, blocked sinuses, asthma attacks, stinging eyes... sand mist complicates the lives of sensitive people. Even when they're not born with these allergies, they come with time, and that's where I come in! Squeezyyyyy!

Good practices:
Prevention campaigns are run regularly so that people can learn to air out their living spaces at the right time, and avoid sports or activities that require too much effort during sand fogs

HYDROSPHERE

Hydrosphère

υδρόσφαιρα

Idrosfera

Hidrosfera

Maji

Water
Sea
Renewable energy
Health

WATER

Cabo Verde

Santo Antão Island faces significant challenges related to access to water due to its arid climate, limited freshwater resources, and uneven distribution of rainfall. Despite these challenges, efforts have been made to improve water access, ensure water security, and promote sustainable water management practices.

Water Sources:
The primary sources of freshwater on Santo Antão Island include surface water reservoirs, groundwater aquifers, and fog and rainwater harvesting systems. Surface water reservoirs, such as dams and ponds, capture runoff from rainfall and serve as critical water sources for agriculture, livestock, and domestic use in rural communities. Groundwater aquifers, although limited in availability, provide supplementary water supplies through wells and boreholes, particularly in coastal areas.

Fog and rainwater Harvesting:
Fog and rainwater harvesting systems are utilized to capture and store rainwater for domestic, agricultural, and community purposes. Rooftop catchment systems, cisterns, and storage tanks collect fog and rainwater during the rainy season, providing a reliable source of water during dry periods and droughts. Community-based fog and rainwater harvesting initiatives promote water conservation, resilience to climate variability, and self-sufficiency in water supply.

Desalination:
Desalination plants play a crucial role in addressing water scarcity on Santo Antão Island by converting seawater into potable water through desalination processes, in particular in the Porto Novo area. Desalination facilities, powered by renewable energy sources such as solar and wind, supplement freshwater supplies and provide a reliable source of drinking water for coastal communities.

Water Distribution and Infrastructure:
Water distribution networks and infrastructure, including pipelines, pumping stations, and storage facilities, are essential for delivering water to households, businesses, and agricultural areas. They are spread all over Santo Antão.

Investment in water infrastructure upgrades and maintenance is necessary to address distribution inefficiencies, minimize water losses, and ensure equitable access to water across the island.

Sustainable Water Management:
Sustainable water management practices, including water conservation, efficiency measures, and integrated water resources management (IWRM) approaches, are vital for preserving freshwater resources and enhancing water security. Community participation, stakeholder engagement, and capacity building efforts are essential for promoting sustainable water use, mitigating water-related risks, and building resilience to climate change impacts.

Despite the challenges posed by water scarcity and limited freshwater resources, efforts to enhance water access, promote sustainable water management practices, and build resilience to climate change are essential for ensuring the well-being and prosperity of residents on Santo Antão Island.

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Croatia

The island of Veli Iž is a tourist destination facing water scarcity. Islanders rely on water not only for daily needs but also to cultivate gardens for fresh produce. However, in the summer, with temperatures exceeding 30 degrees and a few rainy days, they struggle. Many attempt to build rainwater storage, but it's not enough. Islanders wait a month for water deliveries by boat, and collected rainwater is insufficient and less clean.

The solution is to establish a consistent water supply from the mainland, ensuring a healthier and better life for both locals and tourists on the island.

Greece

Desalination is an important source of water supply for Syros, as the island faces a water shortage problem, especially during the summer months.

Existing Units:

- **Ermoupolis Desalination Plant:** It has been operating since 1968 and has a production capacity of 2,000,000 m3 of water per year.
- **Posidonia Desalination Unit:** Installed in 2022 and has a production capacity of 650 m3 of water per day.
- **Baris Desalination Unit:** It has been operating since 2021 and has a production capacity of 400 m3 of water per day.
- **Smaller units:** There are also smaller desalination units in various villages of the island.

Advantages:

- **Security of water supply:** Desalination ensures the existence of drinking water on the island, regardless of weather conditions.
- **Reduction of water scarcity:** Desalination helps to deal with the problem of water scarcity, especially during the summer months.
- **Improving water quality:** Desalination produces high quality drinking water.

Challenges:

- **High cost:** The cost of producing water from desalination is higher than the cost of production from conventional sources.
- **Energy consumption:** Desalination is an energy-intensive process, which contributes to the increase in energy consumption on the island.
- **Environmental effects:** Desalination can have environmental effects, such as the production of brine and warming of the sea area.

Conclusion:

Desalination is a necessary solution to deal with the water shortage in Syros. However, it is important to consider the challenges related to cost, energy consumption and environmental impact. It is necessary to adopt best practices and invest in new desalination technologies in order to reduce the impact on the environment and ensure the island's sustainable water supply.

Biological Cleaning Unit of Syros

The port of Ermoupolis is a pole of attraction for the permanent residents as well as for the visitors of Syros. From the founding of the city (190 years ago) until 2000, the port received all sewage (urban and industrial) with negative effects on the environment. Since the beginning of 2000, Biological cleaning

has been operating in the Lazaretta area, which includes full treatment of liquids and biological sludge and covers the needs of the city of Ermoupoli, the settlement of Ano Syros, as well as the areas of Kinio, Manna and Azolimnos. From 2022, the new Biological cleaning unit also operates, also in Lazaretta, which covers the needs of M. Gialos and part of Azolimnos. The walk on the beach of the city is now pleasant and the port of Ermoupolis smells of sea salt and not unpleasantly. The Unit is controlled by an Electronic Computer, so that all odors are deodorized, and no nuisance is created in the area.

Syros: 800,000 cigarette butts collected by residents and visitors within 2 years

The Municipality of Syros-Ermoupolis, a pioneer in the field of environmental sustainability, proudly announces the result of the second successful shipment of cigarette butts, in the context of the innovative #gopafree cigarette butt collection, management and recycling program implemented by AMKE Cigarette Cycle. The consistent participation of the Municipality of Syros-Ermoupolis in the program proves its dedication to the protection of the environment and the need to create sustainable practices for the future. The recent shipment of approximately 800,000 cigarette butts, collected during the 2 years of implementation of the program, demonstrates the significant progress achieved. The placement of 40 special cigarette butt collection bins at key points of the island represent the Municipality's commitment to the preservation of the public spaces and beaches of our island, offering an environmental advantage that is reflected in significant numbers. The benefits of recycling these cigarette butts, according to estimates, are 5,600 cubic meters of fresh or salt water saved from cigarette butt pollution, 40 kg of compost that will result from paper and tobacco waste, and 150 kg of industrial plastic raw material from the recycling of the microplastic contained in cigarette butts. These significant results demonstrate the positive impact that conscious and systematic recycling can have on the local environment.

Italy

The town's water system dates back to the Roman Empire, which created a town network starting from the natural spring Is Solus and going to the center of the town with the Fontana Romana well and continuing to the seafront with the Lavatoio. Obviously, the system has been modernized with the network starting from the reservoirs in the area and bringing water to all homes.

To prevent risks of water shortage or scarcity, almost every house is equipped with a tank. The water is not drinkable and recently an attempt has been made to remedy this with a single stable service of quality water for a fee. In the

countryside, there are no natural sources capable of meeting the needs of agriculture, and over time the few farmers have equipped themselves with artesian wells or reservoirs fed by tanker trucks, and equipped the few agricultural land with drip systems. At present, no seawater desalination has been initiated. The sewage system pours into an underestimated purification plant that cannot withstand the impact of the increase in the summer tourist population, generating, in addition to the bad smell, temporary bathing bans on the nearest beaches.

Martinique

I'm Splash! When it rains, I hit the ground, run off or seep into the soil. It is through these water transfers that chlordecone is mainly dispersed into the environment, either dissolved in water...or associated with soil particles.
This explains the contamination of rivers, groundwater and the marine environment. Tap water is treated to reduce the remaining particles of Chlordecone in the water as much as possible. It is therefore still possible to drink tap water.

Portugal

Madeira Island experiences a Mediterranean climate with uneven distribution of rainfall throughout the year. While the island receives a substantial amount of rainfall, water scarcity can occur, particularly in the summer months. To address this, Madeira has implemented water management strategies such as water storage reservoirs, efficient irrigation practices, and public awareness campaigns to promote water conservation.

Tourism and population growth have also increased water demand, emphasizing the importance of sustainable water management. Additionally, efforts have been made to enhance wastewater treatment and reuse to reduce environmental impact.

SEA

Cabo Verde

The blue economy sector, including fisheries and sea linked activities, constitutes a strategic pillar of great interest for the economic and social development of Cabo Verde. In fact, fishing proves to be of great importance, particularly for the food security of the population, being considered the main source of animal protein in the country, a sector that generates a considerable number of direct and indirect jobs. This sector covers small and medium size enterprises, that represents more than 80% of Cabo Verde's goods exports aborad (UNIDO Cabo Verde Country and Industry Profile, 2022).

The number of artisanal vessels registered in Cabo Verde under the 5 th General Fisheries Census (RGP, 2021) was 1,462, including 11% of which are located on the island of Santo Antão. On this island, 72% of these boats have an engine. The results of the 5 th RGP 2021 also indicate that, in Cabo Verde, there are 127 semi-industrial/industrial vessels, of which 10% are located on the island of Santo Antão.

Local activities done to respond to local issues:
SYAH Cabo Verde also carried out a research based on the CRISTAL methodology, including a small survey among fisherfolks from some coastal communities in Santo Antão to assess the impacts of climate change on these communities.

The main impacts recorded by the fisherfolks were:

- Warming of coastal waters, which in turn causes fish to flee the coast, reducing the number of fish present and consequently making artisanal fishing more difficult;
- Reduction of rainwater entering the sea through floods, rivers and other forms. Because of this, fewer nutrients enter the sea, not attracting as many fish to the coastal area as was the case in the past. Sequentially, the quantity of fish caught by communities has decreased.

Suggestions (actions, activities, combating, preservation, prevention)

Raising awareness among the fisherman population on the issue of climate change, its impacts and forms of adaptation and resilience.
Carrying out more studies related to climate change, leading to:

- Research of possible changes in economic and social systems, under different climate scenarios ➔ better understanding of adaptation strategies and planning options for fisheries;
- Effective climate information flow through appropriate dissemination channels;
- Improved analysis of adaptation and mitigation technologies in the fishing sector;
- Partnerships with communities (incl. fisherfolks), researchers and policy makers, so that technologies and planning processes are developed in partnership, engaging all stakeholders.

Fisherfolks need greater access to technologies, markets, information, insurance and credit for investment to adjust their production systems and practices to climate change to build forward better after post-Covid-19 recovery and boost the blue economy. SYAH Cabo Verde could train these fisherfolks.

Promotion of Climate Smart Fisheries, which consists of an integrated approach to fisheries practices that are adapted and resilient to climate change, including landscape management (agricultural land, livestock, forests and fisheries), which addresses the interconnected challenges of food insecurity, exacerbated by climate change.

Croatia

Although Croatia has one of the cleanest seas, the impact of climate change is evident here as well. The sea temperature is rising, affecting the biodiversity of marine flora and fauna on the island of Iž. Uncommon species are becoming more frequent in our sea; for example, jellyfish are appearing more often due to the temperature increase.

The protected species of shellfish, the "pinna nobilis" is rapidly dying off due to the rise in sea temperature, facilitating the spread of a bacteria deadly to pen shells. Climate change affects fish populations on multiple levels, such as distribution and abundance, life cycle timing, individual metabolism, and physiology, as well as the entire ecosystem through food chains. All these changes impact fisheries.

In several bays of the island, waste deposits, mostly fishing debris, have been observed, and locally, old boats are often left to sink, potentially favoring the settlement of various marine life but causing harm due to materials used in boat construction (plastics, various coatings, metals).

Moreover, the sea quality is compromised as septic tanks frequently discharge sewage into the land, which eventually reaches the sea, or is even directly released into it. Another issue is fish farms, affecting the island's visual appeal, attracting other animal species closer to the shore, disrupting the migration of other fish species, polluting the sea, and posing a risk of disease spread for other free marine species.

Suggestion:
Construct a central island sewage treatment plant. There are already organized efforts to remove waste from the sea, and these should be increased with more participants in coastal and underwater cleaning actions.

Greece

Microplastic and Plastic Pollution in the Aegean Sea - Cyclades
The idyllic islands of the Cyclades, a group of islands in the Aegean Sea, are unfortunately not immune to the global problem of plastic pollution.
Microplastics and larger plastic debris pose a significant threat to the marine environment, wildlife, and even human health in this region.

Sources of Plastic Pollution:

- **Tourism:** The Cyclades are a popular tourist destination, and with increased tourism comes increased waste generation. Plastic from single-use items like water bottles, straws, and bags often ends up in the environment due to improper disposal.
- **Shipping:** Shipping activities also contribute to plastic pollution. Plastic waste from ships, such as fishing gear and cargo packaging materials, can end up in the sea through accidental spills or intentional dumping.
- **Land-based sources:** Plastic waste from coastal communities can also be transported by wind and rivers into the Aegean Sea, eventually reaching the Cyclades.

Impacts of Plastic Pollution:

- **Harm to marine life:** Microplastics are ingested by marine animals, mistaking them for food. This can lead to blockages in their digestive systems, reduced feeding efficiency, and even death. Larger plastic debris can also entangle animals, causing injuries and restricting their movement.

- **Disruption of the ecosystem:** Plastic pollution can disrupt the delicate balance of the marine ecosystem. Microplastics can absorb harmful chemicals that can be released into the food chain, impacting various organisms.
- **Negative impact on tourism:** Plastic pollution can negatively impact the tourism industry, which is a major source of income for the Cyclades. Tourists are less likely to visit beaches and other areas that are visibly polluted.

Efforts to combat plastic pollution:
Several initiatives are underway to address the issue of plastic pollution in the Aegean Sea, including the Cyclades:

- **Beach cleanups:** Regular beach cleanups are organized by local communities, environmental groups, and volunteers.
- **Awareness campaigns:** Raising public awareness about the issue of plastic pollution and encouraging responsible waste management practices is crucial for long-term solutions.
- **Policy changes:** Implementing policies that ban single-use plastics, promote the use of reusable alternatives, and improve waste management infrastructure are essential steps towards solving the problem.

Within only a few decades, plastic pollution has become an environmental crisis of global concern in relation to the health of marine life as well as human welfare. The Mediterranean Sea has been noted to contain the sixth-largest accumulation of plastic debris on the planet. In order to comprehend the true extent of this issue in the Greek Seas, the Archipelagos Institute of Marine Conservation has made investigating the impacts of plastic and microplastic pollution on marine ecosystems a priority.

As effective action continues to lag behind destructive practices, we now face the unfortunate truth that every ocean, sea and waterway on the planet has succumbed to plastic contamination. Despite commitments and hopeful declarations at both Mediterranean and EU level, no mitigation measures have been taken to reverse the causes and sources of this alarming problem.

Poison Fish
Lagocephalus sceleratus (Gmelin, 1789), commonly known as the silver-cheeked toadfish, or Sennin-fugu, is an extremely poisonous marine bony fish in the family Tetraodontidae (puffer fishes).

Habitat and distribution
The species is common in the tropical waters of the Indian and Pacific oceans. It is a recent Lessepsian migrant into the eastern Mediterranean Sea, which it reached through the Suez Canal, and it is spreading towards the western

Mediterranean. It has been caught off the coasts of Israel, the south of Turkey, in Cyprus, the south coasts of In its native range (in the Red Sea) the silver-cheeked toadfish lives on rocky bottoms from shallow coastal waters down to a 250 m depth (820 ft).

In December 2018, A Semana, a Cape Verde Islands paper published that this fish was caught in its waters, off West Africa. Thus, an alert went out to all fisherman and the general population on the fatal dangers of consuming this fish.[8]

Description
The silver-cheeked toadfish is very similar to the oceanic pufferfish but more elongated and with a symmetrical caudal (tail) fin. Its back is grey or brown with darker spots and it has a white belly. A characteristic silver band runs along the sides of the fish. The silver-cheeked toadfish can measure up to 40 centimetres (16 in).

Feeding
The silver-cheeked toadfish preys upon benthic invertebrates.

Reproduction
Eggs and larvae are found in the pelagic zone.

Danger to humans
Similar to other puffer fishes, the silver-cheeked toadfish is extremely poisonous if eaten because it contains tetrodotoxin in its ovaries and to a lesser extent its skin, muscles and liver, which protects it from voracious predators. It becomes toxic as it eats bacteria that contain the toxin.[9] This deadly substance causes paralysis of involuntary muscles, which may cause its victims to stop breathing or induce heart failure. Fatal intoxications have been reported in Egypt and Israel.

Italy

There are clear signs that climate change is taking place. The first is the increase in water temperature, which has risen by at least three degrees in the last twenty years in surface waters; a second is the tropicalisation of the sea around the island, with the appearance of previously non-existent species of fish, such as barracuda, the greenhouse fish, the blue crab and others. These species that have entered the Mediterranean Sea, some through the Suez Canal, others with the ballast water of ships, were unknown until recently, but due to their characteristics, including their aggressiveness towards similar species, they are altering the balance of the marine fauna.

The posidonia prairies, in the seas of the island as well as throughout the Mediterranean, are severely diminishing, with considerable damage to the ecosystem and in particular to the growth phase of fish. Large quantities of posidonia are beached every year, creating problems for bathing and difficulties in enforcing European regulations on the subject. An interesting product of the sea, much used by textile practices in the past, such as the pinna nobilis is on the verge of extinction because since 2017 it has been affected by a virus that alone or in conjunction with other pathogens is spreading throughout the Mediterranean, from west to east, without any real understanding of the phenomenon, let alone stopping it.

Fishermen denounce the disappearance or drastic reduction of molluscs and seafood typical of the area (e.g. the mussel) that had some economic significance. Aquaculture farms on the island have suffered serious losses in recent years due to the rise in surface water temperature, which has led to the death of farmed mussels and oysters and the failure of tank farming mainly of giltheads.

The rise in temperature is a particularly relevant phenomenon due to the conformity of the sea, which for the entire stretch in front of Sardinia is a lagoon sea with only a few meters of depth and limited water exchange with the open sea.

Martinique

Fish and aquatic organisms accumulate chlordecone in concentrations higher than those found in water, either through contact or through their diet. Numerous studies have been and continue to be carried out to monitor changes in the presence of chlordecone, by zone and by species fished, in order to better understand contamination and decontamination methods.

Papua New Guinea

Papua New Guinea's seas and marine life are renowned for their richness and diversity. The country is situated in the Coral Triangle, which is recognized as the richest area of marine diversity worldwide. Over 600 species of coral and 3,000 species of reef fish inhabit the region, alongside sea turtles, migratory whales, dolphins, and large fish like Maori Wrasse, Dogtooth Tuna, and Giant Trevally.

The country's marine environment includes a wide variety of habitats, such as coastal mangroves, estuaries, reefs, and deep-sea environments. The vertical reef walls near the shore offer great visibility year-round, reaching depths of up to 300 meters.

Community-based marine conservation efforts aim to protect the health of marine ecosystems and ensure sustainable livelihoods for coastal populations. These initiatives focus on locally managed marine areas (LMMAs) to maintain the provision of goods and services, including seafood, medicine, coastal protection, and carbon capture.

Despite these efforts, threats to marine life persist, including unsustainable fishing practices, pollution, and habitat degradation. However, the unique combination of pristine ecosystems and committed local communities presents opportunities for preserving the remarkable marine biodiversity of Papua New Guinea.

Portugal

The surrounding Atlantic Ocean is considered clean, contributing to the island's reputation for attractive and clear waters.

Tanzania

This is done only through:

- Mangrove planting and restoration
- Supporting the Community to develop Participatory Natural Resources (Mangrove) Management Plans
- Raising awareness on sustainable utilization of mangrove resources through COFMAs and Shehia Conservation Committees.
- Provision of alternative livelihood means including beekeeping and agricultural-related investments
- Awareness and mobilization on Good Agricultural Practices to prevent erosion and pollution to the mangrove ecosystem (Flora and Fauna)
- Survival assessment in newly planted and restored mangrove areas
- Close working relationships with appropriate government natural resource management-related institutions

CFP works through conservation and development programs to support the community to improve their livelihoods as well as protect the natural environment.

RENEWABLE ENERGY

Martinique

The Martinique hydroelectric mill is a facility that uses hydraulic energy to generate electricity. It harnesses the power of water. The advantages of hydroelectricity are sustainability and low greenhouse gas emissions. The mentioned plant produces a negligible fraction of the 'electricity consumed, which is still mainly produced by liquid fossil fuel-fired power plants, and there are wind power plants 14 MWe installed in 2021.

There is still no geothermal as in October 12, 2023 the TLS Geothermics receives the first exclusive geothermal exploration license in Martinique. - French geothermal development company, TLS Geothermics was awarded the “Cœur Martinique” geothermal research license, the first of its kind in Martinique. But a 2024 study concludes: *"As a general result, it has been determined that although there has been significant progress towards an orderly energy transition, this has not been consistent with the international agreements signed since the Paris Summit, which is a real challenge in complying with the new commitment of the COP28 of Dubai in tripling the participation of renewables."* Source: https://www.mdpi.com/1996-1073/17/5/1059

Papua New Guinea

Papua New Guinea relies heavily on non-renewable energy sources, with less than 6% of its total energy coming from renewables. The majority of renewable energy in Papua New Guinea consists of hydroelectric power, followed by bioenergy, solar, wind and geothermal contributions.

To increase the use of renewable energy, projects have been implemented, such as the Facilitating Renewable Energy and Energy Efficiency (FREAGER) Project, which focuses on improving renewable energy and energy efficiency technologies, particularly solar photovoltaic (PV) mini-grids and township energy efficiency programs.

However, despite these efforts, the penetration of renewable energy remains relatively low, with only 15% of the population having access to electricity, mostly concentrated in urban areas. There is considerable scope for expanding the use of renewable energy in Papua New Guinea, given its abundant natural resources and the need to reduce greenhouse gas emissions associated with fossil fuel usage.

HEALTH

Croatia

A significant problem for health on Iž Island is the absence of a waste water management system. Households own septic tanks, which, due to the hilly terrain, alternate with the sea, which leads to sea pollution. The nautical marina and the hotel contribute to pollution with their work and inadequate waste management. In the last ten years, there have been several reports of cases of various rashes caused by bacteria entering the sea due to the discharge of feces from septic tanks, or, as in the case of one hotel, directly into the sea.

As a result of pollution, the presence of the infectious bacterium **"impetigo"** in the sea spreads through the skin and has been a health problem for decades. Due to the island's isolation, the septic tanks are emptied by a truck, which then empties the contents into nature, which contributes to even greater pollution and increases the risk to health.

Also, the main source of water in households is rainwater, which often causes diarrhea if you drink tap water that has not been boiled, and it especially affects tourists.

Suggestion:
Instead of emptying the contents in nature, the installation of purifiers into which the contents would be emptied would avoid many health problems related to the generation of waste in the village.

Greece

The Lagocephalus has been causing great concern in the scientific community since 2003 when it was detected for the first time in the waters of the Easter Mediterranean. The risk is greater for amateur anglers, since many do not suspect the slightest thing or, even if they have heard of the harehead, cannot distinguish it. However, great care is needed as **tetrodotoxin causes muscle paralysis**, blocks the nervous system and **can cause death**. This particular toxin is mainly concentrated in the liver and genital organs of the hare, but also in the muscle tissue eaten by humans. Its toxicity depends on many factors such as age, size, reproductive period, etc.

Its toxicity increases during its breeding season, mainly in the summer months. In many countries, poisonings from its consumption are observed every year, with associated mortality rates.

This species has a characteristic torpedo-like shape, two silver stripes on the sides of the body, on the back it is greyish with strong dark spots, it has no scales and it has four characteristic strong beak-like teeth. It is not aggressive or otherwise dangerous unless eaten. Its marketing is prohibited in Greece.

Martinique

Several measures are implemented to guarantee the quality of drinking water. These include regular monitoring of water quality, appropriate treatment programs to remove contaminants, awareness campaigns on the importance of water hygiene, and strict regulations to protect drinking water sources from pollution. In addition, water quality monitoring programs in natural environments, such as rivers and water bodies, are also in place to protect public health and the local ecosystem.

Papua New Guinea

Papua New Guinea's health system faces challenges in providing equitable access to healthcare services. Significant inequities exist in access to primary healthcare, with rural and remote areas particularly underserved. The country's health system is striving to achieve Universal Health Coverage by 2030, necessitating a comprehensive understanding of the current system and areas requiring strengthening. Efforts are underway to improve the health system, including the implementation of the Provincial Health Authority reform to enhance planning and funding of primary healthcare and address existing inequities. Challenges such as lack of access to health facilities, shortages of healthcare workers, especially in rural areas, and maternal and newborn health issues persist. Strengthening management capacity at the provincial level is crucial for advancing healthcare delivery in Papua New Guinea.

The country has made strides in transforming its health information system using mobile and geographic information technologies. These advancements have led to higher quality, timelier, and more complete health data, facilitating better decision-making and resource allocation. Despite these improvements, obstacles remain on the path to achieving Universal Health Coverage, necessitating continued efforts to enhance staff engagement with the system and improve healthcare outcomes for citizens.


BIOSPHERE
Biosphère
βιοσφαίρα
Biosfera
Mazingira
ya maisha
People/Livelihoods
Culture/Art
Waste

PEOPLE/LIVELIHOODS

Cabo Verde

Pressure on terrestrial biodiversity continues to advance, generally from human settlements and activities, directly and indirectly, through fragmentation, destruction and disruption of habitats, as well as human expansion. According to the work that focuses on the impacts of anthropic factors on plant biodiversity identifies invasive species, ecosystem fragmentation, free grazing and pasture harvesting as the main causes of pressure on biodiversity in Cabo Verde. Added to this, the limited organizational capacities, constraints in legal management, reduced knowledge and environmental awareness, and poor adaptation to climate change.

In marine biodiversity, fishing, tourism, water, recreational and leisure sports, naval and port activities, and maritime transport continue to be considered the main factors of their degradation. According to the National Adaptation Plan (NAP), changes in the status and trends of biodiversity result from ongoing economic activities and development projects, pose direct and indirect threats to biodiversity loss. Highlights may include rural poverty, coastal erosion, IUU fishing, marine pollution, import of aggregates and other construction materials, weak level of environmental citizenship and cumulative, multiplicative and amplifying effects of threats. Forest and agroforestry perimeters are present on the nine inhabited islands, with Santiago, Maio, Santo Antão and São Nicolau having, proportionally, the largest forest covered area. Santo Antão had 2 177,8 ha of forest in 2013, 3% of the Island territory. (https://dev-chm.cbd.int/countries/profile?country=cv, 2024)

Local activities done to respond to local issues

SYAH Cabo Verde carried out indigenous plants and trees planting and educational campaigns, in partnership with local institutions in Santo Antão. Together with “Live on the island” partners, a mural painting to raise awareness on biodiversity conservation was done in the Agricultural Center Afonso Martinho of Santo Antão. This included a message about preserving biodiversity in several languages. Visits to nurseries, eco-promenades in the forest and plogging activities in the coastal areas and beaches were carried out during the Training Course in Santo Antão, and then followed-up by the local communities.

TOURISM

The picturesque Island of Santo Antão is renowned for its stunning natural landscapes, rich cultural heritage, and warm hospitality, making it an increasingly popular destination for tourists seeking authentic experiences and off-the-beaten-path adventures. Tourism plays a significant role in the island's economy, providing opportunities for economic growth, employment generation, and cultural exchange. However, sustainable tourism development is essential to ensure the preservation of the island's natural and cultural assets while maximizing the benefits for local communities.

Natural Attractions:
Santo Antão Island boasts diverse natural attractions that attract tourists from around the world, including towering mountain peaks, lush valleys, dramatic coastal cliffs, and pristine beaches. Hiking trails, such as the iconic Ribeira Grande Valley, Ribeira da Torre, Fontainhas, Planalto Leste, Garça and the Paul Valley, offer opportunities for outdoor enthusiasts to explore the island's rugged terrain, discover hidden waterfalls, and encounter endemic flora and fauna.

Cultural Experiences:
The island's vibrant cultural scene and rich history provide visitors with immersive cultural experiences, including traditional music, dance, festivals, and culinary delights. Cultural tours and heritage walks offer insights into the island's Creole culture, colonial architecture, artisanal crafts, and historical sites, such as the charming towns of Ponta do Sol and Ribeira Grande.

Adventure Tourism:
Santo Antão Island is a paradise for adventure seekers, offering a plethora of adrenaline-pumping activities, including mountain biking, canyoning, hiking, surfing, and kiteboarding. The island's rugged landscapes and diverse microclimates provide ideal conditions for outdoor adventures, with experienced guides and tour operators catering to both novice and seasoned adventurers.

Sustainable Tourism Initiatives:
Sustainable tourism initiatives aim to balance tourism development with environmental conservation, community empowerment, and cultural preservation. Eco-friendly accommodations, such as eco-lodges and guesthouses, promote responsible tourism practices, minimize environmental impacts, and support local economies. Community-based tourism projects engage local residents in tourism activities, provide alternative livelihood opportunities, and foster cross-cultural exchange and understanding.

Infrastructure Development:
Investment in tourism infrastructure, including transportation, accommodation, and recreational facilities, is essential for enhancing visitor experiences and supporting tourism growth. Improvements in transportation connectivity, such as ferry services and road networks, facilitate access to remote areas and promote tourism dispersal across the island. Sustainable tourism development in Santo Antão Island holds the promise of economic prosperity, cultural preservation, and environmental conservation. By fostering responsible tourism practices and community engagement, the island can unlock the full potential of its tourism sector while safeguarding its natural and cultural treasures for future generations to enjoy.

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Croatia

Life on the island of Iž is peaceful but lacks appeal for the younger generation. Winter and autumn are quiet with fewer people and events, prompting many islanders, especially the youth, to move to the mainland. The island comes alive during the season with **Erasmus+ projects** like Dancing Roots, Culture Builders, and Youth Council, along with events like **Iški kralj**, **Brudetijada**, and live music. Unfortunately, traditional events, such as **Iška Kraljica**, are dwindling due to financial constraints and organizational challenges.

TOURISM

For a small island like Iž with its beauty that attracts an increasing number of visitors every year, coping with such a large number of people becomes a real challenge for the local population, but also for the island's ecosystem and its resources, which are extremely depleted in a short period of time. Therefore, the question of developing a strategy and network to attract a different type of tourism seems necessary in order to do so a move away from spa consumer tourism towards the provision of travel, adventure, Robinson and agro tourism, which offer experience, emotion and experience instead of spending.

Greece

Syros dominates the heart of the Aegean with the dynamic character and the cosmopolitan grace of a bourgeois. A sovereign power based in Ermoupolis, the capital of the island but also of the Cyclades, which maintains and highlights the glamor of another era, a history that unfolds through the labyrinthine alleys, the numerous old mansions and neoclassical buildings, the medieval Upper traditional Cycladic villages, the Orthodox and Catholic churches, the lacy shores, the blue sea and the fairytale natural landscape.

Syros' economy
The island has a highly developed economy based on a variety of sources.

Agricultural Production and Crafts
Loucoumia are delights produced in Syros that have Asia Minor roots, while their appearance on the island took place around 1832, upon the arrival of refugees from Chios. It is a sweet that is made from water, starch and sugar through a particularly difficult and time-consuming process and is available in various flavors, such as rose, mastic, bergamot, almond, etc. Halvadopita is a round pie-like confection, sandwiched between two thin sheets of ostia (thin wafer), enclosing a mixture of key ingredients aromatic Syrian honey and freshly roasted whole almonds.

Syros' thyme honey is a pure and raw honey without preservatives with a special texture and aroma, which is why it is used in various traditional sweets. The caper grows on the steep rocks and stony soils of Syros. It has a special taste and texture, as it is influenced by the sunshine, the absence of rain on the island, but also the sea breeze. It is preserved in brine and used in food and mainly in the village salad.

The cheese products of Syros are distinguished for their exceptional tastes.
Saint Michalis cheese takes its name from the village of the same name, with a Protected Designation of Origin since 1996. It is a hard, pale yellow cheese made from pasteurized cow's milk that stands out for its unique spicy taste.

Louza is a traditional Syros- pork tenderloin meze marinated in red wine with pepper , allspice, cloves and cinnamon and air dried Syrian sausages are made from pork and have a very special flavor due to the fennel. But there are also garlic sausages which are an equally delicious variation with the addition of garlic.

Pastries are dried and baked figs with sesame and cinnamon. Ideal choice to give energy Crushed Syros olives are a traditional product preserved in fennel and brine. Among the horticultural products of Syros, what stands out is the cultivation of "anhydrous" fruit and vegetables, due to the lack of water, which are considered very high quality. The aromatic plants and herbs of the mountainous regions of Syros are characterized by their strong taste and special aroma and color.

Traditional Shipbuilding

Intertwined with the maritime tradition of the island, Karnagio or Tarsanas appeared for the first time in the middle of the 19th century. to the south of the port, right next to the large shipyard of Neorio, due to the smooth slope of the ground, which allowed the lifting and launching of small boats initially and larger ones over the years. Greece has always had the advantage, due to its geographical position, as a focal point of the three great seas, as a result of which it has an abundance of shipyards. To this day, both Tarsanas of Mavrikou and Karnagio of Georges, as they were known since the olden days, continue the long shipbuilding tradition with new modernized equipment.

The "Neorio" Shipyard is the largest industrial unit of Ermoupoli and one of the oldest machine shops in Greece. It has been operating since 1860 and has gone through successive phases of prosperity and decline.

TOURISM

The privileged position of the island, its developed tourist infrastructure and its special character make it an ideal destination for authentic and alternative holidays. Syros is a pole of attraction throughout the year, as each season dresses the already enchanting scenery with its own colors and aromas, with its own beauties and contrasts, always offering a special and unrepeatable experience for all visitors.

By investing in cultural, sports, religious, maritime, conference and educational tourism, encouraging investment initiatives and implementing a strategy of systematic and aggressive promotion of the island, with the use of new and innovative technologies, Syros claims and wins its position on the international tourist map.

Italy

The island of Sant'Antioco is home to one of the largest and most numerous fishing fleets in Sardinia, which is often forced, due to military exercises at Capo Teulada, to respect the restricted zones: for this restriction, fishermen receive indemnities.

The main sources of subsistence on the island are trade, craft, service and care activities, together with a residual labor force in the industrial sector. There is a significant decline in agriculture, viticulture and pastoralism, as well as the disappearance of traditional handicrafts. Faced with this, there is a strong emigration of young people for work or study, both nationally and abroad, a phenomenon that affects Sulcis in particular compared to other areas of Sardinia where young people in the 18-34 age bracket have dropped by almost half in the last twenty years. Young people often leave permanently, those who decide to stay live off precarious jobs, especially in the summer.

TOURISM

Tourism is in fact a very current source of livelihood as it is growing in numbers, even if it is very limited to a small period of the year: there is a lack of action to attract tourists even out of season, a phenomenon that has some success during traditional festivals or on special occasions of a sporting, ecological or votive nature.

Martinique

As far as Martinique's biosphere is concerned, various initiatives are in place to preserve the island's biodiversity and fragile ecosystems. These include the creation and management of nature reserves and national parks to protect natural habitats and endemic species.

Efforts are also being made to restore degraded ecosystems, promote sustainable agricultural practices and raise awareness of the importance of nature conservation. In addition, research programs are conducted to better understand local biodiversity and develop effective conservation strategies.

Papua New Guinea

Papua New Guinea is home to a diverse population engaged in a variety of livelihood strategies. The predominantly rural population relies on agriculture, with approximately 85% of the population living in rural areas. Agriculture provides the basis for most rural livelihoods, although the success of this sector varies widely depending on location, market access, and available technology.

Remote communities often face challenges such as limited market access, poor infrastructure, and low production capacities. Cash cropping, such as rubber in Western Province, offers opportunities for revenue generation, but accessibility constraints limit the potential of these ventures.

In addition to agriculture, fisheries and forestry provide important livelihood options, particularly in coastal and riverine areas. Small-scale artisanal fishing is widespread, supplying protein and generating income for many families. Forest products, such as wood and non-timber forest products, also contribute to household economies.

Urban centers host a smaller proportion of the population but exhibit rapid growth and diversification. Wealthier areas of rural Papua New Guinea also attract migration, as residents seek opportunities for better livelihoods. Urbanization brings challenges related to unemployment, housing, and infrastructure, but it also creates opportunities for formal and informal employment, entrepreneurship, and participation in global markets.

The Government of Papua New Guinea, development organizations, churches, and resource extraction companies collaborate to support agricultural development and villager livelihoods. Interventions aimed at increasing food production, enhancing cash income, and improving nutrition benefit villagers, thereby reducing poverty and fostering community well-being.

While Papua New Guinea ranks among the least developed nations, initiatives focused on improving livelihoods, resilience, and economic development demonstrate promise for future prosperity. Organizations such as World Vision work to empower individuals and communities, enabling them to build sustainable sources of income and improve overall well-being.

TOURISM

Papua New Guinea's tourism industry offers a diverse range of adventure and natural attractions, making it an appealing destination for travelers seeking unique experiences.

Some key points from the search results include:
1. Attractions: Papua New Guinea's rugged terrain, pristine rainforests, vibrant coral reefs, and diverse indigenous communities provide a wealth of tourism opportunities. The country is known for its rich biodiversity, cultural diversity, and natural beauty, attracting nature enthusiasts, adventure seekers, and cultural tourists.
2. Popular Tourist Destinations:

- Kokoda Track: A challenging trek through the Owen Stanley Range, significant for adventure travelers interested in World War II history and hiking
- Cultural Festivals: Events like the Goroka Show and the Mask Festival celebrate the nation's diverse traditions and attract tourists interested in cultural experiences
- Dive Tourism: World-class diving spots such as Milne Bay and Kimbe Bay make Papua New Guinea a popular destination for scuba diving enthusiasts
- Conflict Islands, Alotau, Madang: Sought-after destinations for cruise travelers seeking unique experiences in picturesque surroundings

3. Infrastructure Development: The government has been investing in infrastructure development to support tourism, including upgrading airports, roads, and accommodation facilities. These improvements aim to enhance accessibility to key tourist destinations and raise industry standards.
4. Sustainable Tourism: Papua New Guinea emphasizes sustainable tourism practices and community-based initiatives to preserve its natural beauty and cultural heritage. Responsible tourism efforts focus on environmental conservation and supporting local communities economically.
5. Economic Impact: Tourism plays a vital role in Papua New Guinea's economy by contributing to foreign exchange earnings, job creation, poverty alleviation, and rural development. The sector supports various industries such as hospitality, transportation, handicrafts, and tour operations.

Papua New Guinea's tourism industry continues to evolve, offering travelers a blend of adventure, culture, and natural wonders. By addressing challenges, promoting sustainable practices, and leveraging its unique attractions, the country aims to further develop its tourism sector for economic growth and cultural preservation.

Portugal

Madeira Island is home to a population engaged in diverse livelihoods.
The economy is driven by sectors such as tourism, agriculture, and services. **Tourism** is a major industry, with visitors attracted to the island's natural beauty, historical sites, and outdoor activities. Agriculture plays a role, and the terraced landscapes are used for cultivating crops like bananas, grapes, and flowers.

Fishing is another traditional livelihood, contributing to local sustenance and economy. The population is known for its warmth and friendliness, and there is a sense of community pride in preserving Madeiran traditions. Overall, the island's livelihoods are often influenced by its unique geography, climate, and the balance between maintaining traditional practices and embracing modern economic activities.

Tanzania

Key programs CFP engages in are:

- Beekeeping programs
- Alternative energy
- Agribusiness interventions
- Rainwater harvesting
- Entrepreneurship development
- Microfinance development (Village Savings and Loans Associations)
- Women and Youth economic empowerment

CULTURE/ART

Cabo Verde

Santo Antão Island, part of the culturally rich Cabo Verde archipelago, boasts a vibrant tapestry of art, music, dance, cuisine, and traditions that reflect its diverse heritage and historical influences. From traditional music and crafts to modern artistic expressions, the island's cultural landscape embodies a unique blend of African, European, and Creole influences, shaping its identity and captivating visitors from around the world.

Music and Dance:
Music holds a central place in the cultural fabric of Santo Antão Island, with genres such as morna, coladeira, and contra-dance and cola san jón resonating through its towns and villages. **Morna**, a soulful musical genre often accompanied by guitar and violin, expresses themes of love, longing, and nostalgia, reflecting the island's melancholic beauty and poetic soul.
Traditional dance forms, including the mazurka and the cola san jón, are performed during festivals, celebrations, and social gatherings, showcasing the island's rhythmic and expressive movements.

Visual Arts and Crafts:
Santo Antão Island is renowned for its skilled artisans who create intricate handicrafts, including pottery, basketry, weaving, and woodcarving, using locally sourced materials and traditional techniques. Artisanal markets and workshops offer visitors the opportunity to admire and purchase handcrafted souvenirs, textiles, ceramics, and sculptures, each bearing the imprint of the island's cultural heritage.

Literature and Oral Tradition:
The island's literary tradition is steeped in oral storytelling, poetry, and folklore, passed down through generations by griots, or oral historians. Poets and writers from Santo Antão Island, such as the Claridosos, contribute to the Cabo Verdean literary scene, exploring themes of identity, history, and social change through their works of poetry, prose, and drama.

Gastronomy:
Santo Antão Island's culinary scene reflects its diverse cultural heritage, blending African, Portuguese, and Creole flavors and ingredients. Local delicacies, such as cachupa, a hearty stew of corn, beans, and meat, fish and

vegetables pot ‘caldeirada’, beans stews ‘feijoada’ and corn delights such as xerém and cuscús offer a glimpse into the island's culinary traditions. Traditional beverages, such as ponche and grogue, a traditional sugarcane spirit, tantalize the taste buds and captivate locals and visitors.

Festivals and Celebrations:
Festivals and cultural celebrations provide opportunities for residents to come together, celebrate their heritage, and showcase their artistic talents. Events such as the **Festas de São João**, celebrating the island's patron saint, and the **Carnival festivities**, featuring colorful parades, music, and dance, are highlights of Santo Antão's festive calendar. The music summer festival of Sinagoga gathers the younger generations every year in the idyllic space of the Sinagoga oceanic pools and ancient ruins.

The rich tapestry of art and culture in Santo Antão Island serves as a testament to its vibrant heritage, creative spirit, and enduring legacy, fostering a sense of pride, belonging, and community among its residents and captivating visitors with its beauty and diversity.

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Croatia

The island of Iž has a rich cultural heritage, but some traditional elements, such as writing in Glagolitic - the oldest Croatian script, and the crafting of Iž's traditional ceramic pot called "Iški lopuž," are slowly fading.

Today, the tradition of writing in **Glagolitic script** is not actively maintained, and on Veli Iž, historically known as the island of Glagolitic script enthusiasts, it is nearly disappearing.

"Iški lopuž" represents traditional ceramic vessels crafted on the island of Iž. Once, many islanders were skilled in making them, symbolizing the self-sustainability of the island. The firing process was not just a means of production but also an opportunity for local gatherings and socializing.

Today, only one person has preserved the knowledge of crafting "Iški lopuž," yet, despite this, the knowledge is not being passed on. This traditional practice is also dying out due to emigration and aging of the population, as well as the loss of interest in traditional practices. There are local initiatives that protect Iško Lopuž from being forgotten by the organization of cooking events using the traditional recipe of Iški Brudet.

"Iški kralj" is an event held (almost) every year for over 50 years. As a custom, the island "king" is chosen for entertainment purposes, having no special rights except for three days a year when festivities are organized in their honor.

Several artists of the older generation reside on Veli Iž. While there is no dedicated gallery or concert hall on the island, the Cultural Center hosts concerts, theater performances, exhibitions, and occasionally serves the needs of the Prizma Association. The Prizma Association sets an example of good practice, aiming to enrich the cultural and artistic life of the island.

Suggestion:
Organize a school/course on Glagolitic script as well as the art residency on the island to enrich the cultural and art life of the community

Greece

Culture
A city – open-air museum, Hermoupoli, a medieval city, Ano Syros, and dozens of cultural attractions make Syros a top destination for those who choose to combine moments of relaxation with the search for history and culture at every step.

Architecture
The Capital of the Cyclades- Ermoupolis, stands out for its impressive architectural culture with the first signs of architectural progress appearing after 1821, from the refugees who settled on the island, transferring the typology of the traditional urban architecture of the regions of origin. With the gradual prevalence of European classicism, the traditional building type recedes from the city center to the popular neighborhoods. In 1837, Wilhelm von Weiler implements the first zoning plan, according to the dictates of modern urban planning, and establishes the monumental neoclassical architecture of Hermoupolis with the main axes, squares and positions of public buildings. In the period 1840-1860, Bavarian, Italian and then Greek architects, influenced by Classicism and Romanticism, invent a new architectural structure, also known as the Neoclassical Architecture of

Hermoupolis, with stone-built buildings with marble slabs and support with arches. From the middle of the 19th century, the Neoclassical Architecture of Athens makes its appearance with plastered surfaces, impressive marble facades, clay columns and statues and French-style wooden frames.

Theater
The historic Apollo Theater, an emblem of Ermoupoli's cultural heritage, hosts a variety of artistic and cultural events throughout the year, such as international festivals, delightful operas and theatrical performances by domestic and international troupes.

Literature
Syros is an island with a strong artistic history. Among the Syrian writers who have left their mark on Greek Literature are Emm. Roidis, Dim. Vikelas, G. Souris, L. Koukoulas, K. Bastias, R. Boumi-Papa and M. Eleftheriou.

Music
Folk music prevails as an integral characteristic cultural element from the first decades of the 20th century. in the musical events of Syros. The Patriarch of Rebetikos and founder of modern folk music, the unforgettable Markos Vamvakaris, was born here. Fragosyriani, Markos's infamous butcher shop, has seen the most executions and adaptations, traveling the island's reputation around the world.

Visitable Places/Historical Monuments and Museums
Miaouli square is the central square of Ermoupoli which architecturally composes a fairytale setting of the 19th century, with buildings that testify to the existence of a great civilization. There, the statue of the admiral of the Revolution of 1821, Andreas Miaoulis, dominates, while an impressive music stage with relief representations of Apollo and the Muses transforms the space into the absolute meeting point of the island.

The Town Hall of Ermoupolis that adorns Miaouli Square is one of the largest and most imposing town halls in Greece and was built in 1876 according to a design by Ernst Ziller. It is a very special building with impressive details, forecourts, towers and in general a characteristic architecture inspired by 3 different rhythms. Other notable elements of the Town Hall are the hanging staircase at the entrance, the bust of D. Vafiadakis and the meeting room. The Municipal Theater of Apollo is a work of art that bears witness to the cultural development of Hermoupoli. Built in 1864 by the Italian architect Pietro Sampo, it bears architectural influences from Italian and French culture, and is often compared to a miniature version of Milan's Scala.

The Archaeological Museum of Syros, one of the oldest museums in Greece, has collections that include Proto-Cycladic and Byzantine exhibits, sculptures and inscriptions. There is also an exhibition of archaeologist Christos Tsoundas in the museum.

The Museum of Replicas of Cycladic Art was founded in 1993 by Yiannis and Eleni Vati and houses replicas of the Goulandris Museum in Athens. It organizes educational programs of painting, playing and creating, as well as guided tours of the Cycladic Civilization of the 3rd millennium BC. The *Markos Vamvakaris Museum* is housed in a renovated, but old house in the heart of Ano Syros and presents the life of the much-loved rebet, through photographs, his personal items, handwritten texts and poems, but also through a half-hour documentary in his honor , which is displayed throughout the museum's operation.

The **Exhibition of Traditional Professions** in Ano Syros includes objects used by the Apanosyrians in their daily lives. From the barber's scissors, the fisherman's bench, the carpenter's tools, the farmers' agricultural tools, the beekeepers' smokehouse, but also various household items.

The Museum of Fishing Boats, **Aquatic Organisms and Shellfish** (Aquarium) in Kini is one of the most beloved attractions for young and old alike, as it gives visitors the opportunity to get to know the enchanting marine world of the Aegean Sea up close and to study deep marine flora and fauna.

Cultural Events/Festivals

The rich cultural program "Syros - Culture" in which renowned and international Festivals stand out (Festival of Argentine Tango, Ermoupolis Choral Festival, Dance and Dance Theater Festival, Syros International Film Festival (SIFF), Aegean Festival, Guitar Festival, Eyes Walk Digital Festival, Accordion Festival, Rebetiko Festival, International Animation Festival and Market - Animasyros etc.), as well as the active role of the island's Cultural Associations, give Syros a comparative cultural advantage.

Italy

The country was reconstituted in the mid-1700s when part of the population returned after leaving it due to pirate raids and disease. In the reconstruction of the village, the two cultures that represented the two economies of the village coexisted; agriculture and trade. From the former came the culture of the local Sardinian language and the entire tradition of clothing and handicrafts from goldsmithing to textiles. Non-traditional families on the island, those coming from the island of San Pietro or directly from Piedmont, often Ligurian-speaking and foreign to Sardinian culture with its traditional dress, ceremonies and festivities, have been more closely linked to commerce.

Thanks to the preservation of traditions, Sant'Antioco was, until the 1950s, a point of reference for textile art thanks to master Italo Diana and his use of sea-silk, an artistic craftsmanship that continued until the 1980s. Today, both crafts related to **textiles** (tapestries, carpets, embroidery, filet, textiles, etc.), to **weaving** (baskets and creels), and those related to **wood carving** have disappeared from the town's economy, although there remains for them a great attachment on the part of the inhabitants.

Many associations and cultural centers are now working on the history of the past, in particular OttovolanteSulcis, Il Calderone, the Historical Archive managed by the Studio 87 Cooperative and the Archaeological Park managed by the Cooperative Archeotur.

Martinique

Art and culture occupy a central place in daily life and are also valued as important elements of the Martinican identity. There is a wealth of artistic and cultural expression in various fields, including music, dance, literature, crafts and the visual arts. Festivals, cultural events and art exhibitions are organized throughout the year to celebrate and promote this diverse cultural heritage.

In addition, initiatives are put in place to preserve and pass on Martinique's cultural traditions to future generations, while fostering innovation and contemporary artistic creativity.

Best practices:
There is a biennial puppet festival organized by the CEMEA.
Martinique's speciality is storytelling. This oral practice has existed since the days of slavery, and was used to talk about the people in charge of the homes without their knowledge. Their identities were changed by animals: *"Kompè lapin"*, for example, represents a clever person. The tale was also used for the deceased at their wake...
"Yéééééééééékri , Yéééééééékra" Are onomatopoeia used to capture the audience's attention.

Papua New Guinea

Papua New Guinea boasts a rich and diverse artistic tradition, with a focus on carved wooden sculpture, masks, canoes, storyboards, and weaving.
Some notable aspects of Papua New Guinea's cultural and artistic heritage include:

- **Carved Wooden Sculpture:** Papua New Guinea is famous globally for its exquisite carved wooden sculpture, featuring masks, canoes, and storyboards. Notable artists include Mathias Kauage, Timothy Akis, and Joe Nalo.
- **Malagan Art:** This tradition originates from New Ireland and involves the creation of wooden sculptures, skull portraits, and masks. Examples of Malagan art can be found in numerous museum collections worldwide.
- **Bilas:** Refers to the art of body adornment in Papua New Guinea, involving the use of shells, feathers, bone, metal, textiles, and gemstones. Bilas serves multiple purposes, including communicating social status, expressing cultural affiliation, and fulfilling spiritual and physical needs
- **Music and Dancing:** Traditional music plays a significant role in Papua New Guinean society, with dance performances accompanying religious festivals known as "sing-sings," which involve colorful attire and representations of mythical creatures
- **Theater:** Theater is another integral aspect of Papua New Guinean culture, with performances incorporating singing, dancing, and acting. Performances often revolve around historical events, legends, and folklore.

Contemporary Art
Modern Papua New Guinean artists continue to explore new mediums and themes, with several prominent names emerging in recent decades:

- M*athias Kauage:* Regarded as one of the pioneers of contemporary Papua New Guinean art, Kauage won Australia's prestigious Blake Prize for Religious Art in 1990. His works can be found in galleries worldwide.

- *Timothy Akis:* Another influential figure in contemporary Papua New Guinean art, Akis explores themes of identity, politics, and religion in his paintings.
- *Joseph Nalo:* Nalo is a multidisciplinary artist who combines elements of traditional Papua New Guinean art with contemporary techniques.

Preservation and Promotion
Various initiatives aim to preserve and promote Papua New Guinea's cultural heritage, including:
-**Exhibitions:** Events such as "Built on Culture: The Art of Papua New Guinea" celebrate the country's artistic achievements and help raise awareness internationally.
-**Google Arts & Culture:** Collaborations with Google Arts & Culture allow viewers worldwide to explore Papua New Guinea's artistic treasures virtually.
-**Australian Museum:** The Australian Museum hosts regular exhibitions dedicated to Papua New Guinea's art and culture, helping to educate audiences about the country's rich heritage.

These endeavors highlight the importance of protecting and promoting Papua New Guinea's cultural heritage, ensuring that future generations can enjoy and learn from the country's artistic legacy.

Portugal

Madeira Island boasts a rich and vibrant cultural scene. The island's cultural heritage is shaped by a blend of influences, including Portuguese, African, and Moorish elements. Traditional folk music, particularly the unique sound of Madeiran folkloric music and dance, is an integral part of the cultural identity.

Artisan crafts, such as the production of traditional wickerwork and embroidery, showcase the island's craftsmanship. Madeira is also known for its religious festivals and processions, with the **Festa da Flor** (Flower Festival) being a prominent annual celebration.

The island's museums and historical sites provide insights into its past, including the **Madeira Story Centre** and the **Museum of Contemporary Art**. Overall, the cultural landscape of Madeira is a tapestry of traditions, arts, and celebrations that reflect its historical and geographical context.

WASTE

Cabo Verde

Santo Antão Island, a nature jewel within the Cabo Verde archipelago, grapples with challenges related to waste management due to its remote location, rugged terrain, and limited resources. Effective waste management practices are essential for preserving the island's natural beauty, protecting public health, and promoting sustainable development. Despite these challenges, initiatives have been undertaken to address waste management issues and promote environmental stewardship.

Waste Generation:
Waste generation on Santo Antão Island is primarily driven by residential, commercial, and industrial activities, exacerbated by population growth, tourism, and economic development. Common types of waste include household waste, plastic packaging, construction debris, agricultural residues, and electronic waste.

Waste Collection and Disposal:
Waste collection services on Santo Antão Island face logistical challenges due to rugged terrain, inadequate infrastructure, and limited access to remote communities. Collection efforts are primarily focused on urban areas, with informal waste collection networks operating in some rural communities.
Waste disposal methods vary, with open dumping being a common practice in many areas, posing environmental and public health risks.

Recycling and Resource Recovery:
Recycling initiatives on Santo Antão Island are limited, with informal recycling activities conducted by local residents and informal waste pickers. Efforts to establish formal recycling programs and promote resource recovery, such as composting organic waste and recycling plastic, glass, and metal, are underway but face challenges related to infrastructure and awareness.

Environmental and Health Impacts:
Improper waste management practices, including open dumping and burning of waste, contribute to environmental pollution, soil contamination, and degradation of natural habitats. Inadequate waste management infrastructure and practices pose risks to public health, including the spread of diseases, contamination of water sources, and respiratory ailments.

Community Engagement and Awareness:
Community engagement and awareness-raising activities play a vital role in promoting responsible waste management practices and fostering a culture of environmental stewardship. Education campaigns, clean-up events, and recycling workshops empower residents to reduce waste generation, recycle materials, and adopt sustainable lifestyles.

Efforts to address waste management challenges on Santo Antão Island require collaborative action, investment in infrastructure, and community engagement. By implementing sustainable waste management practices, the island can preserve its natural beauty, protect public health, and promote a greener and more resilient future for generations to come.

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Croatia

The issue of waste on the island of Iž is managed by the public institution of the city of Zadar, to which the island of Iž administratively belongs.
Mixed and bulky waste is collected in containers that are taken to the city from the island. The containers are often overfilled, which results in the spread of waste and unpleasant odors around them.

In the village there are smaller containers for separating waste, however, all waste is taken away from the island in a mixed manner, with the exception of plastic bottles, which can be sold separately.

A big problem in waste management is the seasonal difference in the amount of waste, between winter when there are about 500 people on the island and summer when there are about 2,500.

Tourists from diverse backgrounds often contribute to litter on our island, and the current waste disposal locations, near the Cultural Center and the road, are inadequate.

To address this issue, we've adopted a successful practice from Teatro Metaphora. By organizing eco-marathons during various projects, we tap into participants' enthusiasm, fostering a cleaner island and encouraging locals to take pride in maintaining its beauty.

Suggestion: Since bio-waste from gardens, households and olive groves makes up a significant amount of waste, by separately collecting suitable materials (such as olive tree and tree branches, cleared land, garden waste...) opening a system for composting bio-waste can solve a large part of the waste problem on Iž. Heating briquettes can be created - which is also considered a renewable energy source.

Greece

Solid Waste Management Agency of the Municipality of Syros-Ermoupoli

Generally:
The Solid Waste Management Agency of the Municipality of Syros-Ermoupoli (FODSA) is an organization based in Ermoupoli and responsible for the management of urban waste in the Municipality of Syros-Ermoupoli.

Activities:
- Collection and transport of municipal waste
- Operation of a Sanitary Landfill (LANDFILL)
- Recycling programs
- Public information and awareness

Information on recycling in the Municipality of Syros-Ermoupolis:
Recycled materials:
- Paper (newspapers, magazines, cardboard)
- Plastic (bottles, bags, containers)
- Glass (bottles, jars)
- Metal (aluminum cans, cans)

Recycling areas:
- Scattered in the settlements of the Municipality
- Green bins
- Recycling bins in public services and schools

Collection schedule:
You can find the program for the collection of recyclable materials on the website of the Municipality of Syros-Ermoupoli.

Italy

Until a few decades ago, waste was dumped in an open municipal dump on the immediate outskirts of the village. Today this area appears to be covered with earth with nature taking back its space. The use of the landfill has been superseded by the use of undifferentiated waste bins. At present, door-to-door selective waste collection operates, timetabled according to area and type of waste, and this selective collection is carried out by an ecological centre/island.

The private company that runs the centre pours the individual types of waste into landfills and specialised recycling centres, located in various parts of Sardinia and overseas. There has always been the phenomenon of illegal dumps that pollute and devastate the environment. In this regard, the island's municipal administrations had activated a telephone reporting service.

The residual off-cuts from agricultural activities are not received in the centre and are therefore not recycled, constituting a dangerous trigger for fires, especially in the summer: there is no hypothesis or proposal to reuse these materials as could be composting or mulching or the use of digesters, all techniques that could have economic effects on energy and agriculture.

The waste produced by craft activities, which cannot be dumped in the ecological island, must be delivered by special contracts to authorised companies.

The former industrial area, some 15 hectares at the entrance to the island, still retains a substantial mantle of pollution from chemical processing waste, dilapidated buildings and open landfill opportunities. A strip of sea appears milky in colour due to the high magnesium content that was used in the processing of refractory stones. In recent years, the presence of a large colony of flamingos has been recorded there, suggesting the existence of life forms that are useful to the ecosystem.

Martinique

The issue of waste is addressed through various waste management initiatives. These include selective collection, recycling and composting, as well as awareness-raising programs to encourage responsible consumption practices.

Local authorities are also working on waste reduction at source and waste treatment projects to reduce environmental impact and promote a circular economy.

Papua New Guinea

Waste Management Systems in Papua New Guinea
Papua New Guinea faces challenges in solid waste management, with issues ranging from inadequate infrastructure to insufficient funding and regulatory frameworks.

Key points:

- **Waste Management Strategies:** The PNG LNG Project relies on new project facilities or existing co-venturer waste management areas due to the lack of suitable waste management facilities in various project localities.
- **Waste Categorization:** Waste generated by PNG LNG is classified into restricted (containing hazardous substances) and non-restricted (non-hazardous) waste types. Most waste generated has been non-restricted, emphasizing minimal impact on human health and the environment
- **Challenges:** Solid waste management in Papua New Guinea is a neglected area, with issues such as open burning of waste, lack of specific waste management laws, and poor compliance with existing regulations.
- **Population Growth Impact:** Rapid population growth and economic development projects contribute to increasing waste generation trends, posing significant challenges for waste management authorities in cities like Port Moresby and Lae
- **Funding and Resources:** Insufficient funding, poor management standards, and lack of policy guidelines hinder effective waste management in PNG. The need for public awareness programs and regulatory frameworks is evident.

Efforts are being made to address these challenges, including recycling initiatives, regular waste management performance reports, and proposals for landfill upgrades. However, there is a pressing need for improved infrastructure, increased public awareness, and stronger regulatory frameworks to enhance solid waste management practices in Papua New Guinea.

Portugal

Waste management in Madeira Island involves efforts to address the challenges of waste disposal and environmental sustainability.
The region has implemented various waste management strategies to promote recycling and reduce environmental impact. This includes the establishment of recycling facilities, waste collection programs, and initiatives to raise public awareness about responsible waste disposal.

Given the importance of tourism on the island, there is a focus on maintaining a clean and attractive environment. Waste management practices aim to balance the needs of the local population with those of the tourism industry, emphasizing sustainability and conservation. For the latest and most detailed information on waste management in Madeira, it is recommended to consult local environmental authorities or relevant government agencies.

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