

CELEBRATE  
ISLANDS

# SMALL GUIDE FOR GREAT IDEAS





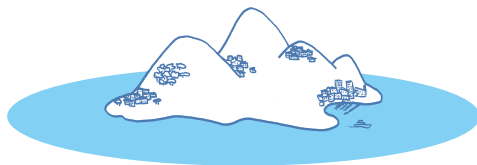
**This guide has been designed to enable children to understand the challenges of islands' sustainable development.**

First of all, what does «Islander» mean?

It is the adjective of the common name «island».

For example, when someone's live on an island, he/she is called an "islander".

In the dictionary, the word island is defined as a «land area surrounded by water». In reality, islands can be very different from each other.



**This small guide for great ideas is structured in topics.**

There is also a glossary with definitions of the scientific words.

This guide is therefore a play and pedagogical tool to learn:  
Sustainable development concepts, Specific challenges faced by islands,  
New scientific vocabulary



# GOVERNANCE

**Governance is the way a group is organized. In a class, governance is materialized by the group of students, who are represented by a class delegate for example. In a country, governance is illustrated by a government, a president etc.**

As in a class, on a small island it is important to listen to the inhabitants and users of the island (fishermen, tourists, shopkeepers, etc.). Everyone can be involved in the management of the territory, not only the town hall or the government.

When an island is part of a coastal town governance, it does not have the same organization and the same functioning as an isolated island in the middle of the Pacific Ocean. On a private island or an island owned by the army, it is more difficult to implement biodiversity preservation operations because these areas are not public, that is to say they do not belong to everyone.

# HUMAN ACTIVITIES

Natural resources and natural areas on small islands are under strong pressures caused by the development of human activities.



## > **Agriculture:**

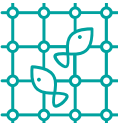
Faced with the constraints of

insularity, agriculture plays an increasing role in the island's food self-sufficiency, spatial planning, environmental protection and social cohesion. The development of organic farming is a first response to the conservation of biodiversity.



> **Tourism:** It represents an important source of income for the islands, even if local populations

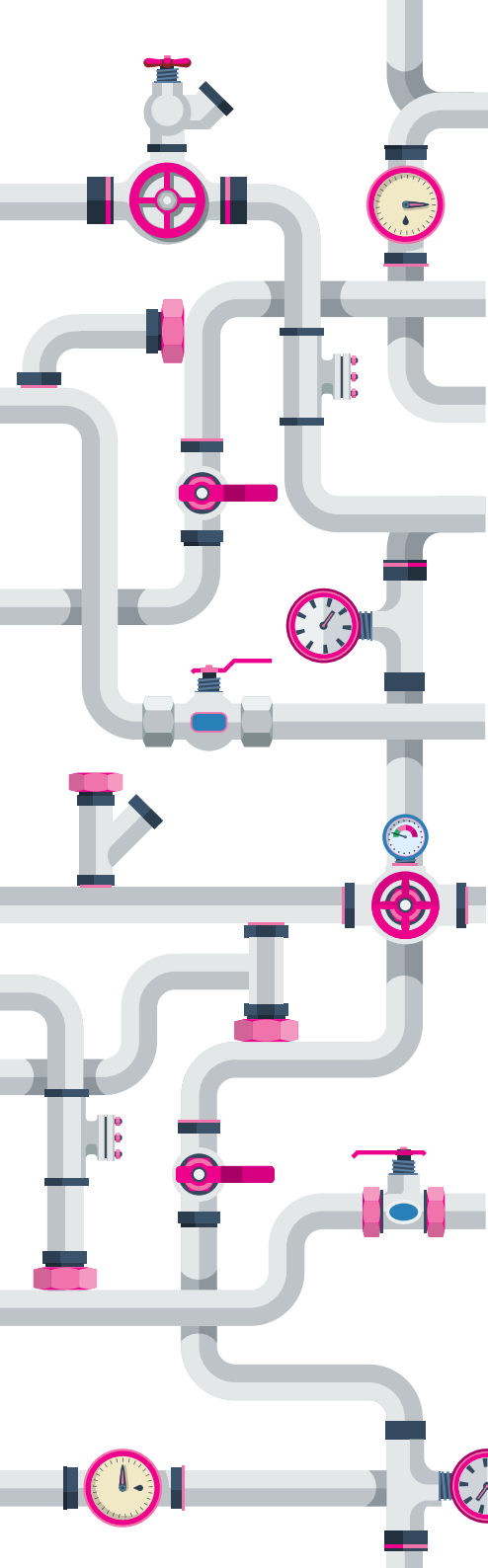
benefit from these incomes sometimes in an unequal way. However, the seasonal inflow of visitors generates negative impacts on the environment that are difficult to manage: a lot of waste produced, sudden increase in water consumption (and possible pollution of freshwater resources), energy, etc. Some activities have a high pressure on fragile natural environments, such as beaches and [reefs](#).



> **Fishing:** fish have always been a source of food for the inhabitants of coastal areas and islands. Islands are popular fishing grounds because they are far from the pollution that comes from the mainland. Their isolation

and their difficulty of access have made islands safe havens for fish for a long time. Today, the increase of fishermen around the islands is leading to a reduction of fish stock as well as negative impacts on the marine environment. It is important to protect fish stocks to ensure that there will be enough fish for future generations. We must also involve local fishermen and their know-how because they are part of the [cultural heritage](#) of their islands and have great knowledge of their territory.

**This is why it is important to think about sustainable tourism, sustainable agriculture, sustainable fishing ... To better understand the functioning of island areas in order to adapt the facilities and promote activities that respect local natural and cultural environments.**



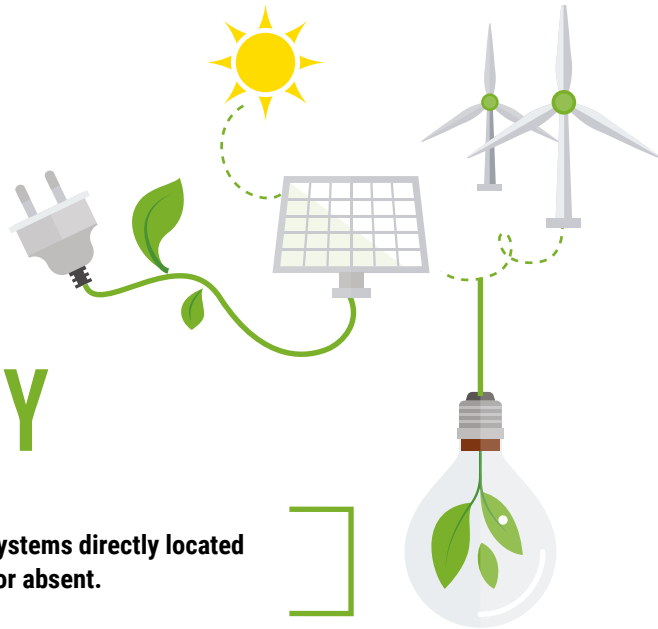
# FRESHWATER

**Small islands are frequently facing lack of freshwater because of their size, vegetation, scarcity of water sources or lack of rain.**

In addition, the water quality can be altered by the intrusion of seawater, and therefore salt water, into the **groundwater**. Groundwater is a freshwater storage area located deep in the ground. This intrusion of seawater is often caused by agricultural, domestic or tourism activities.

**Wastewater is often dumped directly into the oceans without being treated. It negatively affects both **ecosystems** and inhabitants' health.**

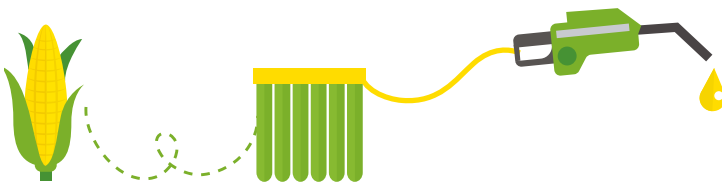
A major challenge for small islands is to implement innovative methods to reduce consumption; increase the sources of freshwater and fight against these pollutions.



# ENERGY

**Power generation systems directly located on islands are rare or absent.**

Islands usually depend on an energy input from the mainland (connected by an underwater power cable, import of gasoline by boat, etc.). This dependence makes islands fragile because if there is an issue or natural disaster on the mainland, their energy access can be cut down. In addition, the import of energy is expensive and the use of non-renewable energy negatively impacts the environment.



The issue with **fossil energy** is that it does not renew itself. When we will have consumed all available fossil energy, there will be none left. It is therefore urgent to think of new energy sources to strengthen the autonomy of island territories, especially renewable energies (solar panels, wind turbines, etc.).



# WASTE

**Waste collection, storing and transporting are often complicated on islands. They are often missing storage areas, financial resources and waste treatment infrastructures. Consequences of this bad waste treatment are soil degradation; health problems and impacts on islands' landscape.**

Several islands have demonstrated good practices by implementing waste reduction initiatives. For example on Galite island in Tunisia they installed water fountains to avoid plastic bottles consumption and they compact waste to reduce the volume. In Gorée Island in Senegal, they collect lost fishing nets in the sea.

On remote islands far from the mainland, less expensive and constraining solutions are also implemented. For example: small **incinerators**, **composting** for organic waste, or reuse of materials (on the island of Bequia in Caribbeans they recycle glass into public areas furniture).





# BIODIVERSITY ECOSYSTEMS and

**Biodiversity is the set of all living things on Earth.  
We call biodiversity the variety of life.**

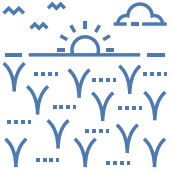
Biodiversity is present at all levels of life:

- > Within the same living species, in their genes: for example within the human species, individuals are all different.
- > Between different animal or plant species. For example: the diversity of birds, which can be of different size and color and live in different habitats.
- > At the level of the planet between different living habitats : the ecosystems. For example: there is a great diversity between deserts, forests and oceans.

Biodiversity changes over time. It was different in prehistory and will change in the future: some living species will disappear, others will evolve.

Some activities carried out by humans accelerate the disappearance of species because species do not have time to adapt. These pressures are particularly high in coastal areas (seaside) around the world. Islands are sanctuary areas for coastal biodiversity. For example, some seabirds' species which cross the oceans only breed in island environments. On some islands we can observe species and ecological phenomena that do not exist anywhere else. Sometimes these rare species are threatened by species brought by humans to the islands. The isolation of the island leads to the development of these species, which are called **invasive species**. They compete with rare species, known as **endemic species**, and threaten them with extinction. To prevent the disappearance of these rare species, the management of invasive species is a priority even more than elsewhere.





# LANDSCAPE

We often find remarkable **landscapes** on small islands. These landscapes can be natural, it means that they are very little transformed by the past or present presence of humans. They can also be modified by the activities of the humans on the island.

Here are the different types of natural and «humanized» landscapes that can be found on small islands:

- > **Coastline:** rocks, cliffs, beaches, dunes ...
- > **Mountain:** high and medium mountains
- > **Plains:** wooded countryside, forests, bush
- > **Agricultural:** modification of the land surface by agriculture
- > **Marine:** particular underwater reliefs, seagrasses, coral...
- > **Urban:** landscape located in towns and villages, modified by the environment' transformation by humans. There is often material heritage in these landscapes.

These landscapes are a key element of islands inhabitants' identity. Island landscapes show the islands' cultural heritage, practices, beliefs, and customs to be preserved.

The challenge for small islands is to preserve these landscapes. In order to do so, it is necessary to ensure that new installations fit well into the current landscape of the island, for example by using local materials and preserving the visual identity of the island. Landscapes can also be modified by the impacts of **climate change** eg. rising sea levels lead to **coastal erosion**, which will change the appearance of beaches). It is necessary to identify these impacts, and to put in place actions in order for the island to adapt to these changes.

# GLOSSARY

## **Climate change**

Global warming is a phenomenon that appeared at the beginning of the 20<sup>th</sup> century. It is an increase of the temperature of the planet atmosphere and oceans, due to the increase of greenhouse gases produced by human activities.

## **Composting**

Composting is the recycling of organic waste to naturally produce a fertilizer, the compost.

## **Costal erosion**

Gradual degradation of the coast often caused by waves.

## **Cultural heritage**

All goods of particular interest, for example artistic, historical, archaeological, and that constitute the wealth of a community. For example, the Eiffel Tower and the baguette are both parts of France's cultural heritage.

## **Eco-lodge**

A type of tourist accommodation that meets criteria to respect the environment.

## **Ecosystem**

A set of living beings (animals, plants, bacteria) and nonliving components of a specific natural environment.

## **Endemic species**

An endemic species is a species (animal or plant) naturally present in a given territory, even if it has then been planted or moved around the world.

Some examples of famous endemic species :

- the lemur is endemic to Madagascar,
- cypress is endemic to California,
- Koala is endemic to Australia.

## **Fossil fuel**

Energy derived mainly from coal, oil and natural gas. They are called fossils because they come from the very slow decomposition of living elements (especially plants) several million years ago. Their quantity is limited on Earth, their extraction causes their exhaustion, therefore they are non-renewable.

## **Groundwater table**

Upper groundwater surface formed by rainwater infiltration.

## **Incinerator**

Device for destroying objects by incineration, that is to say by a combustion as complete as possible. It is usually an oven from which the heat released by the materials being burned is sufficient to ignite added materials.

## **Invasive species**

Species introduced by humans outside their natural habitat (voluntarily or not) and which threatens local ecosystems, habitats or species, with negative ecological, economic or health consequences.

## **Landscape**

Spatial, natural or transformed by humans area, which has a certain visual or functional identity.

## **Mangrove**

A type of forest found on tropical coastlines.

## **Marina**

Harbor where are moored sailboats and small boats.

## **Overfishing**

Overexploitation and depletion of fishery resources caused by excessive fishing activity.

## **Photovoltaic panels**

Device transforming light energy into electricity.

## **Reef**

Rock or coral just above or below the surface of water. Often a danger for boats.

## **Selective sorting**

Sorting and recovering waste according to their nature: metals, paper, glass, organic... in order to facilitate their recycling.

## **Sustainable**

To meet the needs (in water, electricity, food, etc.) of current generations without compromising the needs of future generations.

## **Urban sprawl**

Refers to uncontrolled urban sprawl, that is the construction of housing spread in rural or peri-urban areas.

## **Urbanization**

Displacement of population towards cities.

## **Wind turbine**

Device transforming wind energy into electricity.

