

REFERENCE DOCUMENTS



A.

**STRATEGIC
PRINCIPLES**

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STRATEGIC PRINCIPLES

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STRATEGIC PRINCIPLES

It is estimated that there are over 180,000 islands in the world (about 50% of which have a surface area of less than 150 km²), a million if small islands and rocks were included. The importance of these unique environments is recognised worldwide: although they account for only 5% of the earth's surface, islands host 20% of terrestrial plants and vertebrates and 600 million people depend on island ecosystem services for water, food, shelter, medicine, and the resources needed for their daily lives (CBD, 2010).

Various threats, originating from global changes, are endangering their natural, cultural, economic and social heritage, such as pollution (waste, water), biological invasions, worsened by poor connectivity with neighbouring ecosystems, climate change, in some cases is even threatening to submerge certain areas such as the coral islands of the Pacific or the Indian Oceans, and the destruction of habitats and landscapes, particularly due to land development.

Even though sustainable resource management problems (drinking water supplies and wastewater treatment, access to renewable energy sources, waste management, protection of local bio- and agro-biodiversity) and enhancing the value of heritage (natural, landscape and cultural) are not specific to islands, these issues are particularly acute there: isolation, rarity of resources, limited space, lack of locally available technologies, in other words their «insular nature» generally reduces their range of solutions.

Therefore, small islands share a range of issues and so, inevitably, share common solutions.

The general objective of the SMILO Program is to meet the needs of the administrators of these areas in terms of sharing and support, to initiate, encourage and promote measures for the preservation and the sustainable management of natural resources on small islands, strengthening cooperation and solidarity between islands.

Strategic principles have been established in order to build a common foundation allowing a shared vision for the future of the SMILO network islands.. They are broken down into strategic orientations such as broad general principles and thematic orientations setting out objectives for each of the main themes covered by the SMILO Program.

These strategic principles are intended to be amended, updated and clarified in the course of the technical workshops that will set the agenda for the coming years of the Program. They will be discussed and validated at the annual General Meeting of the SMILO association.

The principles and orientations listed in this document will be applied differently depending on the island's context and possibilities (environmental, geographical, socio-cultural, economic, etc.) and will therefore be adapted and scaled to each area. This reference document should guide partner islands throughout the SMILO process, from the creation of the Island Committee to the defining of their priority objectives.

1.

CONTEXT OF ISSUES AND PRESSURES

Living or relying on a small island (<150 km², according to the SMILO criteria), with defined, limited and perceptible boundaries, implies dealing with resources that may become scarce or subject to major disturbances, actual or potential, such as climate change, biological invasions, habitat destruction and pollution (air, water, and soil).

In addition, more or less isolated small islands - geographically, politically, economically – permanently have to redefine the terms of their exchanges and ties with the continent. Given the accessibility of raw materials and resources - food, water, energy - but also the movement of people and information flows (or the lack of it), the question of the level of autonomy and collaboration with the continent (or with the other islands of the archipelago) is at the heart of island project issues.

SMALL ISLANDS, AREAS WHERE HUMAN AND ENVIRONMENTAL ISSUES ARE NATURALLY TIED

Far from being distant problems on islands, environmental issues are condensed and exacerbated on a daily basis: drinking water supply and quality, sanitation, energy-mix, waste management, protection of local biodiversity and agro-biodiversity, enhancing value of heritage, natural and landscape knowledge. This is reflected in the tenuous and lasting links that island communities must create between themselves and their environment, between the natural and the social environments: their outcome and future are tied to this balance.

Even though on a small island the relatively low number of stakeholders and the strength of family and community ties can allow for better sharing of information on these issues and favour active solidarity, the density and the rigidity of “customary” social ties in some cases can have negative effects: more or less passive resistance to the need for change, inertia, even exclusion¹. The challenge is then to overcome these potential conflicts regarding natural resources, to achieve a balanced sharing of productive and natural areas. A strong and structuring issue therefore lies in multi-stakeholder dialogues and the emergence of common and shared visions of the territory; and recognition, dissemination, adaption and permanent transformation of local practices, knowledge and know-how related to small islands.

Guaranteeing good ecological and environmental conditions on an island, conducive to human development, even more so than for other areas, therefore requires inclusive governance mechanisms which should be maintained in the long term. The insular nature can then become a strength, and the need to draw on its own resources within a finite framework, can become a technical, technological and social breeding ground for innovation.

¹From Callois, J.-M. 2006. « Les relations sociales freins ou moteur de la durabilité ; approche par la notion de rayon de confiance » et Guillemot, J.2008 « Gouvernance et développement territorial en milieu insulaire : Le cas de l’Isle-aux-Coudres » (Québec-Canada)

CONTEXT OF ISSUES AND PRESSURES

ISLAND TOURISM A DRIVING FORCE OF DEVELOPMENT AND PRESSURE

Touristic activities in particular, which are strong vehicle for economic development and the enhancement of natural heritage, may, as a result of a lack of guidance or planning, be a source of pressure on terrestrial and marine environments (through increased energy needs, water, waste production, etc.).

Living on an island, quite often, therefore also means dealing with the seasonal fluctuation of the number of inhabitants and visitors. Touristic activities are like the obverse and the reverse of the «insular condition»: on one hand, they allow autochthonous populations to make a living by enhancing natural heritage, on the other they can put excessive pressure on terrestrial and marine environments (increase in energy and water consumption, waste production and ecological impacts). It is precisely by working together on these issues (visitors/year-round living), and fragility (preservation of natural terrestrial and marine environments) that islands can afford to innovate and be visionaries in what is now called «sustainable tourism».

2.

STRATEGIC ORIENTATIONS

Nowadays, three main strategic orientations are supported by the SMILO approach so that islands can aim for balanced and sustainable development allowing optimal cohabitation between Man and Nature. The sustainable equilibrium sought in an area depends, according to its orientations, on a governance that allows for the development of shared visions and solutions, land planning that defines areas and their priority designation and the implementation of financial solutions that support the two previous orientations.

I- GOVERNANCE AND ARTICULATION OF KNOWLEDGE

Governance and the articulation of knowledge form strategic guidelines based on managing conflicts of individual interest and collective issues. Therefore, the SMILO island partner stakeholders will ensure :

SHARED TERRITORIAL PROJECTS

Create, make operational and sustain spaces for meeting, discussing and managing conflicts, recognising and protecting everyone's property rights and use rights - including traditional and customary rights. These places will help to define and clearly outline responsibilities and relations between stakeholders, while building on the local structure – “bottom-up” approach - citizens, users, intermediary bodies (cooperatives, associations, trade unions), land owners, economic actors including companies, experts, communities, municipalities, counties, regions, states.

LOBBYING

Create opportunities, conditions and spaces for the stakeholders involved in the island to have a tribune and visibility in order to defend and promote their area in a structured way to local and national governments and international organisations.

KNOWLEDGES DIALOGUE

Identify and characterise local knowledge, know-how and practices that were found to have a positive impact on the environment, in order to spread them and integrate them not only to scientific approaches - inventories, maps, sectoral studies - but also to local decision-making and planning choices. Sharing, disseminating and transmitting the results of scientific studies and surveys carried out on the island so that the information is known and shared with local stakeholders and does not remain the property of experts outside the territory, using it only occasionally. Be vigilant regarding the tangible outcomes of studies and their follow-up.

STRATEGIC ORIENTATIONS

II- PLANNING AND SPATIAL DEVELOPMENT

Planning and spatial development in land and at sea are major strategic orientations. To achieve sustainability objectives and a balance of uses on islands, the Island Committees will implement :

“SWOT” APPROACH

collectively and systematically identify the strengths, weaknesses, opportunities and threats the island faces; resource availability, shortages, its state of preservation and enhancement, with the aim of better defining local potential and progression margins. Define with precision the equilibrium and breaking points between productive activities that depend on island resources and natural environment protection and ecological thresholds not to be crossed, according to types of human activities.

CARRYING CAPACITIES ASSESSMENT

Determine the island's real carrying capacities, i.e. capacities defined not only by physical and ecological criteria, but which integrate what is socially and culturally acceptable, in order to preserve the spirit of the place, and the notion of seasonality.

ANTICIPATION

Anticipate future pressures on resources and environments rather than managing collateral damage at the end of the line, which requires more human, technical, and financial investments. Identify practical and appropriate island-scale solutions before environmental disruption.

DIVERSIFICATION

Systematically pursue a policy of diversifying activities over the year, favouring a "mix" rather than concentrating on a single resource (agricultural, energetic, etc.), to avoid a situation of dependency.

FOOTPRINT REDUCTION

Support the development or maintaining of human activities - agriculture, fishing, industry, tourism - with low environmental footprints, that respect, protect and value natural environments and which help fight climate change, while ensuring the necessary benefits for local communities. Adapt and evolve economic activities that pollute and are harmful to the environment and support their transition by raising awareness, properly enforcing regulatory measures and with technical innovation.

STRATEGIC ORIENTATIONS

SCALING TO THE SIZE OF THE ISLAND

Use technical and technological innovations adapted to the scale of the island - in terms of infrastructure sizing, proven to be beneficial for inhabitants and users - analysing the benefits - with a "cost-benefit" approach - on medium and long term, and anticipating issues related to maintaining and upholding facilities. When applicable and relevant to the island - in terms of investment, costs, scale of intervention - promote technologies that contribute to autonomy in the circular economy principle - energy, water, waste management - and to reducing dependence on the continent.

INTEGRATED LAND/SEA APPROACH

Move from a sectoral approach to an integrated approach to handle the island as a whole; break the boundaries of management and discipline between land and sea, which are so closely connected from a physical, chemical and biological point of view.

MAINTAINING NATURAL AREAS

Promote balanced management of the area and anticipate the pressures exerted on the different types of environments. Maintain natural buffer zones to limit sprawling, ensure ecological continuity and fauna/flora corridors, define boundaries between productive and non-productive areas, etc.

III- INNOVATIVE FINANCING

The ability to sustainably finance the actions resulting from the diagnosis and the strategic plan must be a priority for island stakeholders in order not to be totally dependent on subsidies or the «project approach». Therefore, Island Committees will :

IMPLEMENT ONGOING FUNDING

Use innovative financial measures to preserve the island's environment: tourist licenses reallocated to concrete local measures and voluntary contributions in tourist infrastructures, taxes on sea connections and crossing tolls reallocated to the island's administrators, funds financed by users of a certain resource through island administrations that redistribute locally, aiming towards a circular economy and «blue economy” - water funds, energy funds, etc. - managed by committees; programs to enhance local products of valuable heritage, geographical indications, labels, commercial brands and other explicit specifications, etc.

3.

THEMATIC ORIENTATIONS

1- FRESH WATER

Some small islands are often confronted with water shortages: their limited size, topography, low density plant cover, scarcity of springs, poor water infiltration into groundwater, inadequate geology, or even the lack of rain, are likely to cause serious shortages in water availability. Reserves are limited to a thin layer of water on flat islands, groundwater is vulnerable to tides and the rise of saltwater infiltration accentuated by climate change and sea level rise. Higher islands potentially have larger water resources, but their storage capacity remains limited due to the lack of dedicated space or infiltration. Access to drinking water on islands is therefore very uneven, as fresh water quality can be affected by the infiltration of seawater in the groundwater, or by pollution due to agricultural, domestic, or touristic activities.

Other islands that are less exposed to water shortages (with heavy rainfall or pipelines, etc.) may however be faced with misuse, over-use or storage problems.

THEREFORE, PARTNER ISLANDS MUST AT LEAST :

- **Regularly assess** the quantity and quality of freshwater resources available on the island, assess the state of the network, and define pressures exerted on this resource according to different uses;
- **Conduct awareness campaigns** on the rational use of water and on everyday measures to reduce or optimize consumption;
- **Develop sustainable measures to conserve water resources** : minimize pesticides use and other artificial products; improving wastewater collection and sanitation; eliminate non-inert waste burial (authorized or unauthorized);
- **Protect catchment basins and water sampling areas** by establishing regulatory perimeters, possibly physically delimited and protected on the surface, and publicly recognised;
- **Ensure minimal ecological flow** in rivers and proper sediment dynamics associated with coastal systems;
- If and when the island's fresh water supply from the mainland is a necessity, **favour water transportation in large quantities** - use barges with reusable tanks, cisterns or containers, etc. - which will then be stored on the island in large capacity tanks or fountains, in order to limit the unnecessary use of plastic;

THEMATIC ORIENTATIONS

I- FRESH WATER

AND PROGRESSIVELY AIM TO :

- **Reduce pressures on water resources at the source** : setting up water-saving appliances in homes and tourist infrastructures, alternative public bathrooms - dry toilets or some equivalent, depending on local social acceptability - setting up suitable irrigation systems such as drip irrigation systems, spraying, etc.;
- **Encourage dialogue and conflict management between water users by setting up exchange committees** such as «basin committees» (or «bay contracts»), creation of «water» funds by the committee to support watershed protection measures, etc.
- Establish measures to control **water runoff and soil erosion**, to preserve the island's soil and emblematic landscapes, and improve tools for percolation and storage in underground aquifers;
- **Strengthen infiltration** through hill reservoirs, reforestation measures, groundwork, agricultural terraces with low walls, etc.
- **Diversify fresh water supply sources**, by favouring alternative methods, such as collecting rainwater, small desalination units adapted to the scale of the island², combined with renewable energies (such as reverse osmosis...), or recycling greywater for agricultural purposes³. Rely on perennial traditional infrastructures if present such as impluviums, etc. On high islands or tropical areas, catching fog water; on volcanic islands, considering the use of hydrothermal waters, linked to rainwater infiltration, with fast and accessible circulation via underground galleries, etc.

² Under certain conditions, particularly optimum releasing of saltwater in the sea in order to limit its impact.

³ Under sanitary control conditions.

II- SANITATION

In coastal areas of developing countries, up to 90% of wastewater is released directly into the oceans untreated, often polluted by pathogens, chemical pollutants, pesticides, chemical fertilizers and other hydrocarbons or waste oils generating negative impacts not only on the inhabitants' health but also on freshwater and marine environments.

THEREFORE, PARTNER ISLANDS MUST AT LEAST :

- **Update existing water treatment infrastructure**, based on in-depth studies to assess wastewater (quantity, quality) and its negative impacts on the environment, - such as micro wastewater treatment plants - and update collection and sewage systems - **including individual and collective septic tanks - to remove wastewater from residential homes**, catchment areas, and fragile terrestrial and marine ecosystems. Treat wastewater properly and particularly control discharges in the sea.
- **Increase awareness of the people** regarding products that are non-toxic and non-polluting for groundwater and, on the other hand, products likely to deteriorate systems - household oils, etc.-.
- For islands with many tourists, **adapt the available facilities to the number of visitors** : number of bathrooms/toilets available, in particular.

AND PROGRESSIVELY AIM TO :

- **Use alternative technologies** adapted to the island's context, such as phyto-purification (filtering plants), lagooning, natural filtration (such as mangroves).
- **Establish systems for tertiary wastewater treatment** to ensure water re-use - for agricultural purposes in particular, if permitted by regulation.
- **Use sewage sludge for energy or agricultural purposes** : spreading it if the capacity of the soil and the type of sludge allows it or use it as fuel or as a source of gas production.

III- ENERGY

Many islands face a lack of conventional energies being locally available, and are forced to import and/or use fossil fuels from the continent. These solutions make them dependent, are often costly and generate a strong ecological footprint and greenhouse gas emissions, contributing to climate change, which small islands may be the first victims of. In other cases, the energy requirements of households put a lot of pressure on fragile island environments and local ecosystems – such as taking tropical wood from mangroves for firewood or coal production.

THEREFORE, PARTNER ISLANDS MUST AT LEAST :

- **Reduce energy consumption at the source by raising users' awareness** and **using less energy-intensive technologies** - low energy appliances, energy efficient heating and cooling equipment (such as problems related to air conditioning, even though islands are often cooled by sea winds).
- **Increase energy efficiency of the island's buildings** - electricity, heating, air-conditioning - and infrastructure (public lighting, etc.), including in protected historical areas, to reduce greenhouse gas emissions thanks to innovative technologies and **foster and promote bioclimatic architecture**: natural insulation and air conditioning, etc.

AND PROGRESSIVELY AIM TO :

- **Decrease then eliminate as much as possible all carbon-based energies** and strive towards energy independence and autonomy by developing a variety of renewable energies according to real possibilities: setting up solar panels, solar electric generators, micro – wind turbines, biomass recovery, geothermal energy, marine energies - currents, waves, temperature gradient between sea surface and depths - or fuels based on terrestrial plant - including agricultural residues such as bagasse - and marine plants (phytoplankton). In public places and restaurants, collected food waste can be used for anaerobic digestion. An alternative would be, for example, cogeneration (thermal/mechanical then electrical) on-site which could therefore always be developed on restoration sites.
- **Support sustainable transportation** - electric transportation, bicycles, animals, etc. on the island, with the aim of completely eliminating all motor vehicles with thermal engines and ensuring they use renewable energies.
- **Develop energy storage capacity** and control-tracking of consumption with smart tools and meters (Smart Grid, R2G Ready to Grid).

IV - WASTE

Waste management problems, particularly plastic pollution (macro and micro), are more acute on islands because of their distance from the continent and geographical constraints, they lack adequate storage facilities, financial resources and treatment facilities whose critical profitability size (financial and technical) is often incompatible with the amount of waste generated. Poor waste management can lead to sanitation problems, to the degradation of soil, water, land and marine environments, as well as landscape quality, affecting the attractiveness of the site and life on the island. Waste accumulation can also be enhanced by tourist influx on the island and significant seasonal variations.

THEREFORE, PARTNER ISLANDS MUST AT LEAST :

- **Assess, characterise and monitor** waste flow on the island - origin, typology, quantity, toxicity.
- **Reduce waste quantity and toxicity at its source:** favouring bulk purchases and limiting packaging of goods imported from the mainland, replacing individual packets (restaurants, hotels) with non-plastic containers (no single use products), favour large containers to transport water from the continent (if applicable). Avoid using small individual plastic bottles.
- **Set up infrastructure to collect, store, sort and pre-treat** different types of waste, limiting and streamlining transport.
- **Manage and treat all bulky waste and non-toxic organic waste** on the island with the basic principles of circular economy (such as green waste composting, reuse of construction waste for new materials, using agricultural residues to produce energy, etc.).
- **Keep toxic waste off the island** (export to the mainland) (waste oils, batteries), and health care waste that could be infectious.
- **Conditioning (compacting) and exporting packaging and plastics**, as well as all non-bulky waste that will be enhanced on the continent in recycling channels.
- **For remote islands (costly transfers), store ultimate non-hazardous waste** - that is, waste that is no longer usable, either by recycling or by energy recovery - if it is geologically favourable (natural soil imperviousness, no groundwater) or incinerate them with possible energy recovery. NB: be careful, incineration requires a great deal of control and expertise to avoid toxic fumes and to manage bottom ashes and smoke treatment residues).
- **Regularly make all island users aware of these measures** and the eco-citizen habits they can achieve.
- If there is a port on the island: **keep a maintenance zone** with the possibility for users (fishermen, boaters) to manage their waste and limit throwing waste at sea.

THEMATIC ORIENTATIONS

IV - WASTE

AND PROGRESSIVELY AIM TO :

- **Monitor all waste exports from the island**, including toxic waste, to ensure that the waste is properly treated and processed on the continent. If there is no waste treatment process nearby on the mainland, make sure to know the storage areas and, if possible, opt for selective storage for possible future treatment.
- **Re-use various materials** (creating resources, repair workshops and artistic transformation workshops).
- **Prohibit tourists from importing waste** (on a daily basis) **to the island** (particularly plastic waste) and systematize its re-importation back to the continent.
- If possible, **implement measures integrated with water management**, e.g. setting up water fountains and reducing the number of plastic bottles using steel bottles, etc.

V- BIODIVERSITY & ECOSYSTEMS

The remote nature of islands results in a high rate of endemism (i.e. the percentage of animal or plant species that do not exist anywhere else), up to 9.5 times higher than continental areas. This remarkable biodiversity, whose future is intimately linked to that of human communities, is however fragile. Islands host 40% of threatened and particularly endangered species⁴. The loss of biodiversity on islands is linked to various phenomena, primarily to biological invasions, reinforced by the absence of predators or parasites for certain species, the reduced size and range of distribution of certain populations and the low connectivity with neighbouring ecosystems, but also the destruction and fragmentation of habitats, the overexploitation of certain resources (including fisheries) and the polluting of strategic ecosystems such as mangroves, seagrass beds, etc.

Climate change exacerbates these phenomena and undermines the resilience of islands and island communities (i.e. their ability to recover from external disruptions): as they are geographically isolated, small islands are more often exposed to extreme climatic events, which are likely to degrade ecosystems of primary importance to local species. Biodiversity loss and ecosystem degradation directly affect islanders, who often highly depend on natural resources and ecosystem services.

THEREFORE PARTNER ISLANDS MUST AT LEAST :

- **Improve knowledge of habitats, marine and terrestrial species (inventories), their evolution, and insure regular monitoring of key species.** These measures will integrate fields that value local knowledge such as ethnobotany and ethno-ecology. Observing and monitoring measures will involve inhabitants and users (fishermen, farmers, even tourists).
- **Publishing scientific outreach and mediation guides** for decision-makers, local administrators, users, and organisers of local awareness raising events/initiatives.
- **Making visitors aware** by informing them before or as soon as they arrive on the island of «good practices» to be respected.

⁴According to the International Union for Conservation of Nature (IUCN), 2012

THEMATIC ORIENTATIONS

V- BIODIVERSITY & ECOSYSTEMS

AND PROGRESSIVELY AIM TO :

- **Support only non-conventional agriculture and cultivating systems** (agro-ecology, organic farming, permaculture), **promoting agrobiodiversity**, eliminate all phytosanitary products used on the island, and used on boats in harbours, mooring and at sea, first by controlling their sale on the island and by raising awareness among users to ensure the good ecological condition of soils, groundwater and food consumed.
- **Particularly promote fishing techniques that are non-destructive to marine environments** to ensure sound state of fish stocks. Fight against all forms of pollution related to human activities, both on land and at sea.
- If the island welcomes or has the vocation to welcome visitors, support only **quality, green tourism**, mobilising local communities, and enhancing biodiversity and remarkable ecosystems, thanks to well-maintained, marked and informative trails, adapted to control the flow of visitors (stairs, paths, barriers, adequate signage, etc.), promoting, if relevant, quality craftsmanship, hotel infrastructure adapted to the size of the island and respectful of their natural environments and strict access regulations for tourists.
- Carry out **ecological engineering and restoration** operations to promote resilience, «restore» natural habitat destruction, and reduce the effects of climate change.
- Prohibit terrestrial and marine **invasive species** on the island and **control and/or eradicate them**.

VI. LANDSCAPES AND CULTURAL HERITAGE

Small islands often have remarkable landscapes, shaped by human activity, which reflect the tenuous link between nature and culture, and make local knowledge and practices tangible. Often, these landscapes are strong identity landmarks for island communities.

Insular landscapes are important symbols and the visible expression of an often very rich cultural heritage - material and immaterial - reflecting practices, beliefs and customs that should be preserved.

THEREFORE, PARTNER ISLANDS MUST AT LEAST :

- **Ensure proper integration of new buildings with landscapes** including extensions of existing buildings, by using local materials, and regulatory measures to avoid disrupting visual continuity.
- **Analyse and document visible impacts of global changes** on the island's characteristic landscapes (remarkable trees, vegetation, agricultural crops, coastlines, etc.).

AND PROGRESSIVELY AIM TO :

- **Promote the island's global landscape comprehension** through participatory diagnosis, recognising strong identity-based landmarks for inhabitants and users, and drafting safeguarding and restoration plans, integrating the fundamental notion of the place's spirit.
- Based on the landscape diagnosis, **maintain perspectives, enhance intangible heritage and traditional techniques** that shape landscapes with high heritage value (such as dry stone walls in the Mediterranean).
- Implement **measures to adapt to climate change** based on the island's traditional landscapes.