water

Using Grey water in the garden

- Wastewater from the kitchen, washing machine or baths, basins and showers is known as 'grey water' and can be used to water the garden.
- Household soaps and detergents are harmless to plants, but water containing bleaches, disinfectants, dishwasher salt and stronger products should not be used.
- It is prudent to alternate containers used for wastewater and mains or rainwater, to prevent build up of potentially harmful residues and bacteria.
- Avoid using grey water on salads and other produce to be eaten raw.
- Grey water should be used as it is produced and storage avoided. If left to stand, potentially harmful organisms might multiply and it will certainly smell bad.

- Fix dripping taps and save 15 L a day.
- Fit flow aerators to handbasin taps to reduce volume to save 4L a minute.
- Don't leave the tap running... fill a bowl or the sink to wash dishes, fruits and vegetables, and turn off the tap when brushing your teeth. Save 6L a minute!

Taps

Use a bowl instead of running the tap

Toilets Did you know that nearly **1/3** of all the clean, drinkable water we use in our homes is flushed down the toilet? Put a water-saving brick or filled PET bottle in the toilet cistern. This will use less water to re-fill the cistern, but won't affect how your toilet works, will save 1 litre or more with each flush.

Showers Most showers use 9 litres of water per minute; a 7-minute shower uses **63** litres! Try a shorter shower: turn on the water to get wet, turn off and lather up, and turn on again to rinse off. Showering this way can easily take under three minutes and only uses **18** litres.

Turn off when brushing, turn on to rinse

energy

To reduce our energy footprint, we need to take action on energy use in 2 ways:

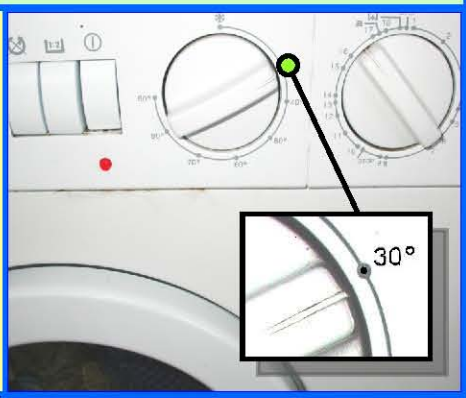
1. use less energy from fossil fuels to reduce carbon emissions and atmospheric warming
2. switch to using energy from sustainable sources such as solar, wind and wave energy

Lighting

1. Use low-energy lightbulbs instead of ordinary filament bulbs.
2. Use motion sensors for outside lights at night, so that they only switch on when needed.
3. Avoid using lights inside the house during the day, daylight should be enough.
4. Turn off lights when you leave a room.
5. Install dimming controls to use less power when lights are on.

Appliances

- Boil only the water you need. We use kettles more that most appliances in the house, next time you switch on the kettle, go and see how fast the electricity meter is moving.
- Use the washing machine with a full load, and wash at **30°C**
- **Switch off** computers, monitors, printers, wireless routers, scanners, TVs and radios when not in use. 'Standby' mode still uses power; when you know you won't be using it for a while, such as overnight, switch off at the plug.
- Use less air conditioning, try natural ventilation.



Boil only what you need

aircon on economy

Switch off when not in use

energy

kitchen

- Cover your pans when cooking and boiling as this uses much less energy.
- Steam your vegetables : you use less water, it boils faster and preserves texture.
- Cooking with a pressure cooker uses 50% less gas than a conventional pot.

Making Your House Energy Efficient

- Trees around buildings provide shade, moisture and keep temperatures low. A cooler, shaded building can significantly reduce its need for air-conditioning.
- When building your house, remember that traditional houses in Seychelles were kept cool by their pitched roofs and natural ventilation. Adapt your design to suit.
- Install a Solar water panel in your house. Although the cost is high up front, in the long term this will pay for itself, especially if you have a full household.
- Use roofing insulation, this will make the house noticeably cooler.

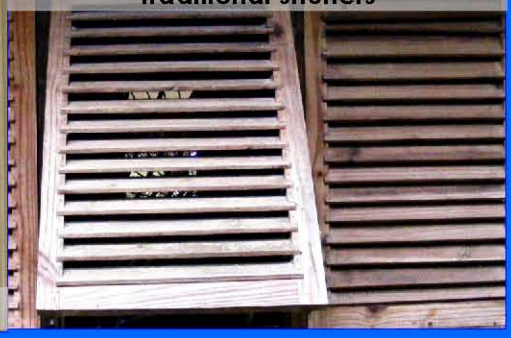
Photovoltaic panel

Roofing insulation

Solar water panel

Low energy lighting

Natural vantilation



Traditional shutters

food

How is food connected to Climate Change?

Producing, storing and transporting the food we buy accounts for nearly **1/3** of personal **Co2 emissions**. With this in mind, we need to choose our food carefully.

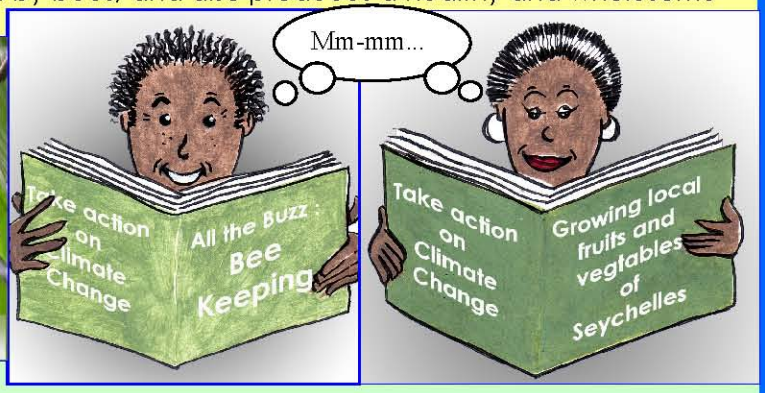
Food Security. Climate Change will impact growing conditions in certain regions. If crops fail due to intense drought for example, food made from those crops will become scarce and more expensive. How will **you** cope if there is a shortage of rice in the world?

What action can you take?

- Eat local. Local vegetables and fruit cause less emissions than imported varieties, because they require less production, storage and transportation. The same goes for meat products.
- Choose local fruits over imported varieties. If local fruit is in demand, such as 'zambrosa', 'pom lokal' and 'rousaye', these varieties might make a comeback, and this helps to preserve Seychelles' biodiversity.
- In the market, look for local vegetables, such as *lerouy*, *manyok* and *patat*, which is one way to reduce your dependence on imported foods such as rice. They are also better for you…
- A good example of self-sufficiency is beekeeping. This preserves the health of the ecosystem through pollination of plants and flowers by bees, and also produces a healthy and wholesome local delicacy: honey.


rousay


serimolia



GARDENING FOR FLAT DWELLERS

In countries where many people live in flats, neighbours get together to make a garden on nearby land. Each family gets a small plot, and people help each other to keep out thieves and pests. Working together develops good relations and strengthens the local community, making it better able to cope with the impacts of Climate Change hazards. You could try planting in containers on your balcony!

your garden

Growing vegetables and fruits makes you more self-reliant, increases your understanding of your natural environment and the plants which thrive in it, and is a fun and healthy way for the family to get active together. Develop environmentally friendly practices, for example: avoid chemicals, grow local species which are more drought resistant, and use compost.

Green Garden Checklist

- √ Local fruit trees and vegetables growing
- √ Local spices such as green onions, thyme, *kari pillay,* parsley, mint, oregano growing
- √ Use of native species in landscaping
- √ Only natural fertilizers or pesticides in use
- √ Medicinal plant corner for treatment of common ailments, i.e. citronelle, mint, kapiler, lapsouli, aloe vera, gro bonm.
- √ Minimal watering needed.
- √ Plants watered with grey water or rainwater
- √ Compost for leaves and food waste
- √ Burning of leaves is avoided - compost it!

Tips for beginners

If you want to grow your own food and have not done much gardening before, here are a few tips:

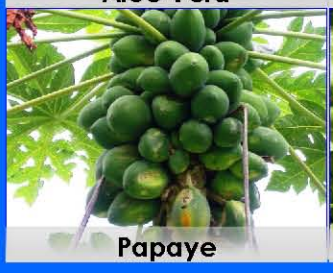
- Try planting food crops that are very easy to grow and fairly resistant to pests, such as fruit trees, bananas, papayas, root crops, maize, pumpkin, *bred mouroum, bred payater* and *trip madanm sedonn.*
- Dig a good sized hole before you plant trees, and add compost, manure and ash to the hole. Water them daily for the first few weeks.
- Ask older neighbours or experienced gardeners for advice - they are often happy to share their knowledge, and their seeds!

Aloe Vera

Pumpkin

Bananas

Medicinal Bwa Renet



Papaye

Watercress

Brede (portlouis)

Medicinal Tantan

your garden

Avoid chemicals

- Use natural methods (organic gardening), such as using home grown compost or manure rather than chemical fertilizer to enrich your soil.
- The garden fork and the hoe are the best weed deterrents - they are environmentally friendly and organic, and good exercise!
- Try companion planting: putting plants that seem to deter pest among your vegetables and flowers.

Compost

- Compost is good for your garden - and even better for the environment. If you make room for a compost bin, you can recycle a lot of household waste and ultimately save valuable space in our landfill sites. Potato peelings, used teabags, eggshells, tea, coffee and lots of other food wastes make excellent compost. Avoid putting in animal remains such as dairy products, fish bones and guts, bones etc as they may attract rats. Dig these down into a deep hole in your garden and bury them instead.
- Compost also helps worms to flourish, and worms help aerate and fertilize your soil.
- 'Limis Koko' is one example of excellent organic compost.

How to make compost

1 The PILE

Designate a corner of your garden and pile up garden waste like leaves, branches, grass cuttings, etc. When the pile is big, leave it to rot for a few weeks and start a new pile.

2 The CAGE

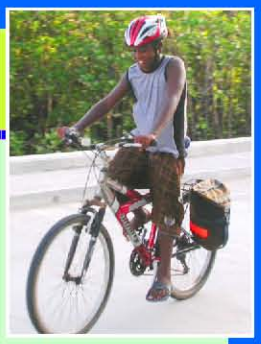
Get some chicken wire and make a 3 or 4 sided bin, large or small, with a lid. Put food and garden waste in, and if you sink it into the ground a bit, use small enough chicken wire and have a good lid, it should be rat and stray dog proof.

3 The BIN

Get a large plastic barrel and cut off the bottom and top, and drill some holes in the sides for air. Keep the top for a lid. Sink it into the ground about 1 foot. You can put all kinds of food and garden waste in, but make sure you turn it over every now and again to make sure there is enough oxygen for everything to rot without starting to smell. When it is almost full leave it to rot

See S4S.COM.SC for details on composting

transport

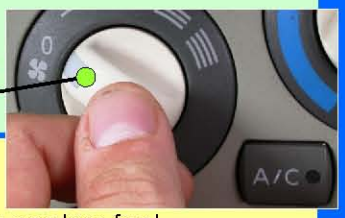


Do you really need to use the car today?

- For short distances, walk or cycle. Think **safety**: wear appropriate shoes and a helmet and put LED lights on your bike. Join a cycling group and get fit!
- Using **buses** reduces your personal CO2 emissions significantly.
- Join a '**carpool**', eg to go to work and to drop your kids off at school. It saves time, cuts down petrol costs and your personal CO2 emissions.
- Choose a smaller **fuel-efficient** car ... Do you *really* need that large 4x4?

Tips to reduce Fuel Consumption and CO2 emissions :

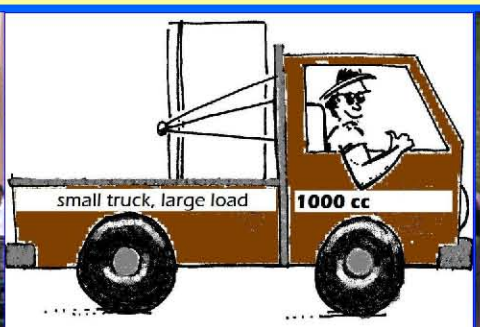
- When the engine is **idling**, you're wasting fuel and adding to CO_2 emissions. If you're likely to be at a standstill for **a couple of minutes,** switch off the engine.
- Drive more smoothly, with less aggressive use of the **accelerator** and brake
- Ensure tyre **pressure** is correct and don't carry around unnecessary weight
- Use less **air conditioning**
- **Service** your car regularly, keep it fuel efficient and make it last longer
- Try to **park** in the shade and use a sun reflector under the windscreen, this cools the car and needs less air conditioning when you get back in.



Boating

- Don't get a 40 horsepower if a 20hp will do, and choose a **4-stroke** which uses less fuel.
- **Maintain** your tank and engine to make it last, to keep it fuel efficient.
- If you have a sailboat, maximize your **wind power** and cut down on the engine.

Boarding a bus in Victoria



Small engines = lower emissions

Parked car with sun reffector

Waste

REUSE
REDUCE
RECYCLE

Household waste requires collection, transportation and processing, and causes Co2 emissions. Landfill sites take up valuable coastal land which is in short supply, and they have a negative environmental impact. We can reduce the volume and the type of waste we generate, to tackle these problems.

reduce the waste you generate

- Use less plastic bags; choose paper bags which are biodegradable.
  -use plastic bags – for example, for lining bins in the kitchen.
- Do not throw away rubbish where it will cause a hazard to the environment, such as forested areas, beaches, near shops, schools and public roads. Rubbish attracts rats and stray animals and can be a threat to health of animals and people who live nearby.
- Don't waste food. Plan your shopping lists, buy what only you need and use leftovers wisely.
- Electronic equipment lasts longer if you look after it, for example: defrosting your fridge and freezer, cleaning filters on appliances, storing them safely.
- Do you really need to upgrade your mobile phone? Try keeping the one you have as long as it lasts.
- Why not upgrade your computer's memory instead of buying a new one?
- Use a double-sided printer whenever you can, and re-use paper that has only been printed on one side for scrap, and use narrower margins in Word documents, thus reducing the number of pages in your document and using less paper when printing. Use recycled paper when available.

recycle

- Did you know that cardboard sheets can be used as mulch in your garden?
- Recycle PET plastic bottles, and glass beer bottles, and keep your empty glass jars - someone will use them for home made jam.
- RECYCLE : Furniture, fridges, pushchairs, books, DVDs and even paint can find a new home. Sell or give to charity, or pass it on to someone you know who needs it.
- For hazardous waste, such as paints, oils, TV sets, computers and asbestos, do this in an environmentally friendly way, in properly managed waste facilities. Seek advice on it.

rechargeable batteries are better than conventional ones, which leak acid if not properly disposed of. Make sure to unplug the charger once the charge is complete.


Plastic bags


bottles

batteries

your natural environment

Why is it important to protect the natural environment?

The value of the natural environment is its Biodiversity, on which we depend directly.

The natural environment is also a wildlife habitat. What wildlife is there near your home?

The natural environment creates a sense of place, unique to where you live, such as the islands, reefs, beaches, coast, mountains, rivers, and their wildlife. This natural heritage should be preserved.

Nature also provides recreational opportunities and supports healthy living. Explore by walking, biking, boating, snorkeling...

Woodlands and forests regulate the rain cycle and are a key factor in watershed management (rivers, streams and springs).

Regular contact with the natural environment has many benefits including:

Reduction in stress
Increased physical activity
Stronger communities
Increased awareness of nature

Here are 4 areas where you can take action :

1. *Your Community*
2. *Your home*
3. *Woodland*
4. *Invasive plant species*

Wildlife club logo

1 Your Community

- Join a local Wildlife Club. This can be a great way to meet new people, and you will be helping to conserve local wildlife.
- Get to know the footpaths around your area and your island, you will be amazed at what you will discover. Do you know Glacis Noire, Mare au Cochons or Anse Marron?
- Look up the Marine Conservation Society (www.MCSS.sc). What can you do to help marine conservation in Seychelles?
- Support local environmental projects, such as the coastal habitat protection projects.
- Check out www.cleanuptheworld.org for ideas on environmental activities which make a difference in your local area.

A clean river

Anse Boileau Coastal Rehabilitation Project

your natural environment

2 Your home

Take care to follow recommended usage, storage and disposal advice for **household** products. Check out these alternatives too : Bicarbonate of Soda, vinegar, lemon juice, water, which are less harmful to the environment.

- Neat Soda is slightly abrasive and can be used to scrub problem stains.
- The citric acid in **lemon juice** works for bleaching, disinfecting removing grease.
- Tackle sinks, shower doors, tiles and grout with 2:1 soda & vinegar / lemon juice. The thick paste should be applied with a damp cloth. Leave for 10 minutes then rub with a brush or sponge.
- Mop vinyl or ceramic tiled floors with 8 tbsp of vinegar : 3 litres of hot water.
- Clean household **drains** by pouring in 1:4 soda & hot vinegar and leave overnight.
- Clean Microwaves and **Ovens** with a cloth dampened in 1:1 vinegar & water.
- Clean and shine **stainless steel** surfaces with a paste of baking soda & water. Apply liberally with a damp cloth. Leave for about five minutes, then wipe.

3 Woodland

Forests supply protection of the environment by themselves: climate, soil, and watershed management. Use that resource responsibly and sustainably.

- Woodlands should be sustainably harvested, so when cutting local wood, only cut what you need.
- Use wood appropriately. For instance, save *Takamaka* and *Calys du Pape* for finer woodwork, and use *Cedre* for flooring and other general hardwearing uses.
- Maximise the use of wood that you cut. Leftover pieces can go to a local craftsman who can use it, and workshop wood shavings can be added to compost.
- Local wood lasts a long time if cut, treated and preserved correctly.

your natural environment

4 Invasive Plant Species

Invasive plants are usually hardy species that are introduced from their native habitat into a new area. Free from their natural insect enemies and diseases, they thrive and spread, upsetting the balance of ecosystems. Invasive plants are serious competitors with native plants, often crowding and taking over entire landscapes. These new invaders may degrade soil and water resources.

- Eradication is extremely difficult once a species has become established so prevention is considered the best defence against invasion.
- Seek out information on which species are a problem in your area. Information sources include horticulturalists, environmental groups, conservationists and government authorities responsible for Agriculture and the Environment.
- Plant native plants in your garden. There are many beautiful plants at nurseries that do not harm the environment.

Invasive Creepers in Victoria

Native plants in nursery. Where?

your home

Storm-proof your house

- Install proper **drainage** from the roof, such as gutters. This controls the outflow of water from your roof and allows you to collect rainwater.
- Put drains in the ground around the house, so that heavy **storm water** is conducted away and does not erode the grass and soil around the house.
- Periodically clean drains and **gutters** to remove blockages and fix leaks. You don't want to be doing this in a rainstorm.
- Have your roof inspected. Replace or secure **roofing sheets** with screws rather than nails, and waterproof the screw holes. Make sure your roof supports are sound and can withstand storm conditions.
- Have your **wiring** inspected and if you need to replace any, put them in conduits to prevent rats gnawing at wires, which can be a fire hazard.
- Cut back **branches** which could damage power lines near your house in a storm.
- Replace or repair glass **louvers** and frames which could be dislodged in a storm.
- Verify your house **insurance** is up to date…

Roofing screws

Clean gutter and downpipe

Rainwater ground drain

Secure glass louvres

Wiring protected in conduits

Sound roofing supports

the marine environment

Our most important resource

We get much pleasure from snorkeling, diving and exploring the shallow waters around the islands as well as depending on them for food and tourism. It is our responsibility to protect this ecosystem and to use its resources sustainably.

- Watch where you drop that anchor! Always look for a patch of clear sand or rock rather than dropping it on coral, even if the coral is already damaged, or use a mooring buoy.
- If your anchor is fouled dive and free it rather than pulling on it which might break off corals.
- Don't drop litter in the sea; turtles die from eating plastics and other non-degradable materials.
- What you put in rivers ends up in the sea, so respect the cleanliness of rivers as well.
- Siltation by earth run-off chokes reefs and shallow coastal habitats; by preserving wetlands and other coastal habitats, you help to prevent fun off and protect these habitats.
- Respect Marine Park boundaries and observe the rules for fishing, and other activities in them.
- Mangroves are very important nurseries for fish and other sea life; keep them clean.


Ouch! Watch that anchor...


Fish trap - enough for your needs


wetlands


Tie up to the mooring buoy

Respect the Marine Park


Mangroves at Ephelia

further reading

The text is extracted and adapted from published scientific material, especially that which is relevant to Small Island Developing States (SIDS). Most of this material is available on the internet, and some of it was produced in Seychelles. A list of reference materials is provided for further reading.

S4S Guide to sustainable living.pub
Sustainable Construction Handbook.pdf
IPCC Climate Change 2007: Synthesis Report
www.environment-agency.gov.uk:
Your responsibility for your waste (Fly_tipping_English.pdf)
Protecting our native wildlife (GEHO0307BLZO-e-e(1).pdf)
enjoy your garden – care for your environment (@G604bhyoee_2045577.pdf)
Dr Rolph Payet
National Climate Change Strategy Climate Change Strategy.doc
Socio-economic Impacts of Climate SNC_Fisheries_Socio-economic_final draft.doc
www.gisp.org
invasive alien species regionalseasIAS.pdf
IUCN
adaptation of water resources management to climate change Change_en.pdf
Linking Biodiversity and Climate Change
Climate_change_brochure.pdf
shaping a sustainable future @ iucn_programme_2009_2012_dfc.pdf
Forests and livelihoods: Reducing emissions from deforestation and ecosystem degradation (REDD)
Climate_change_and_forests_08.pdf
Biodiversity: My hotel in action: A guide to sustainable use of biological resources.
Iucn_hotel_guide_final.pdf
UNDP
Caribbean Renewable Energy Development Programme CREDP_Project_Document.pdf
London climate change partnership Londons-changing-climate-reportp.pdf
national adaptation plan of action, republic of Maldives Mdv01.pdf
(www.gisp.org)
Tackling the Threat of Invasive Alien Species to Plants and Plant Habitats Target10poster.pdf
preventing pests in paradise (Marine Protected Areas) Globallastposter.pdf
garders alert : invasive plants Gardersalert.pdf
the global partnership for plant conservation Gppcposter.pdf