Technical booklet from the training course

"Rooting For Change"

To live your life in a coherent way

from the 12th to the 28st of August 20201
BEDEILLE - France

Addressed to Youth workers, facilitators, trainers, and everyone who would like to change their lives.

CONTENTS PAGES

Statement of Intent

Rooting For Change

The main goal of this training course was to give youth workers a practical tool such as permaculture. The objectives were:

1- Raise awareness among sustainable development.

2- Create a connexion with ourselves and our environment.

3- Share concrete tools about protecting the natural environment and biodiversity.

During the training course, well-being, mindfulness and kindness were brought into the daily life, but also by the atmosphere that has been put in place.

We also promoted a simple, healthy and organic daily life. For this we consumed only local and organic products. Also most of the meals were vegetarian due to ecological matters. We tried to be as much zero waste as we could by transforming fresh food, using bee wax wrap, go shopping with glass container instead of buying packaging products.

The project gave the youth workers, tools to create, in their works, a more ecological way of living. In order to bring it to the youth and children they work with.

To allow participants to practice, they've been divid in 3 groups. Each of them had to design a place in a permacultur way. Using tools they saw during the theorytical part of the training course.

Activities

The 17 days has been leaded as the following (Cf next two pages)

	hursday 12th Augu	Friday 13th	Saturday 14th	Sunday 15th	Monday 16th	Tuesday 17th	Wednesday 18th	Thursday 19th
From 9 am to 12.30 am. Break at 11 to 11.15 am	Preparation of the venue	Creation of the group dynamic Games to know the names introduce ourselves and our skills Game to know the place	Introduction to Permaculture Presentation of the permacultur challenge Theory on permacultur Design	Cycle of water and carbon. Biodiversity, habitats Visiting "Yab Chouchou's farm".	Green energies, how to use them, what for? + Practical workshop	Free day Possibility to visit Toulouse	**Forest functionment:** - Ressources of the forest - Ecosystem - Forest garden - Animals	A house without bills. How to have less needs produce your own energy, and then have less Bills
Lunch break								
From 2.30 pm to 5.30pm Break at 4 pm to 4.15 pm	Arrival of the participants Welcoming evening	Social Ecology. Creation of the collective life functionment all together. Introduction to the stay Schedule	Visit of three different places that the participant will have to turn into permacultur places	Aquaponic system (practical workshop)	From 2:30 to 5pm How to build a project as a community	Free day Possibility to visit Toulouse	- Plant succession -Soil -Bio indicators - Communication (with the mushrooms web)	**Leaving at 2pm** Visiting a permaculture Running project The Peyort Fruiterie in Cazavet
From 5.30 to 6 pm		**from 5.15pm to 6pm:** Social ecology session visiting our collectiv organisation	(optional) Relaxation proposed by participants	(optional) Relaxation proposed by participants	**from 5pm to 6pm:** Social ecology session revisiting our collectiv organisation		(optional) Relaxation proposed by participants	(optional) Relaxation proposed by participants
Dinner at 7.30pm		Dinner break						
from 9 pm to 10 pm		Free night	Cultural evening: France and Spain	(optional) Civil desobeidance	* Climate and youth	Free night	Cultural evening: Greece and Macedonia	(Optional) Music session

	Friday 20th	saturday 21rd	Sunday 22nd	Monday 23rd	Tuesday 24th	Wednesday 25th	Thursday 26th	Friday 27th	Saturday 28th
From 9 am to 12.30 am. Break at 11 to 11.15 am	Writing a technical booklet that will help us reminding all the knowledges Gained.	Introduction to zero waste. Proposal of participants workshops	FREE DAY Proposal to visit a local market. + walk in the surrounding	**Urban permaculture :** - maximise the space -Vertical culturs - How to use the public Spaces	**Design your balcony** - seedling - rempot -Taking of plants cutting - Lombricompost	**FREE MORNING**	**Permaculture design challenge creation:** Mission of designing a place in a permaculture place.	EVALUATION DAY	LEAVING DAY
Lunch break	Lunch break								
From 2.30 pm to 5.30pm	**Leaving at 2:15, Permaculture design challenge creation:** Mission of designing a place in a permaculture place.	Zero waste Do it Yourself practical workshops Turning workshop: - Wild plants - self cosmetics - Food self Sustainability	FREE DAY Proposal to visit a local market. + walk in the surrounding	Meeting shared garden Meeting the incredible Edibles	**Design your balcony** - seedling - rempot -Taking of plants cutting - Lombricompost	Creating some results about the training course to share with the world. Videos, booklet ect.	Visiting all the projects, Presentation of the final Design proposed by Each group	EVALUATION DAY	LEAVING DAY
From 5.30 to 6 pm	(optional) laxation proposed participants	from 5.15pm to 6pm: Social ecology session revisiting our collectiv organisation		(optional) Relaxation proposed by participants	from 5.15pm to 6pm: Social ecology session revisiting our collectiv organisation	(optional) Relaxation proposed by participants		(optional) Relaxation proposed by participants	
Dinner at 7.30pm	Project								
from 9 pm to 10 pm	Cultural evening Serbia and Bulgaria	LOCAL EVENT (titi twister BB au poulpe)	Free night	Free night	Cultural evening: Germany and Netherland	(Optional) Communication	FREE NIGHT with the owners	Good bye party	

Sharing the know how

During the training course, the participants were active as permaculture designers at several locations. At the end they shared their designs with the owners, who may put in place their recommendations.

On the last days of the stay, the participants created workshops to do with children, youth and adults to rise awareness about sustainability and a simple and ecological way of living.

The booklet

The booklet that you hold in your hands, is written by the participants of the training course with some help of Solafrika's team.
Every workshop we did is described in this booklet.
One or two supervisor(s) were chosen for each activity, and were responsible for the writing and the pictures of the technical booklet.
This booklet was sent to each participant, for them to use as a tool to reproduce and improve the knowledges acquired, in the development of their projects in the youth field.

The Partners

Rooting for change, has been implemented by eight European organizations throught the Erasmus+ program:

CID - Macedonia

ALTER EGO - Greece

EQUIPO MANDRAGORA - Spain

YOUTH FOR MOBILITY - Netherland

SFERA SERBIA - Serbia

FUTUR WORLD - Bulgaria

IBG - Germany

SOLAFRIKA - France

Erasmus+

Human Permaculture

Here we are. We have gathered in a circle. Sitting there quietly; maybe a little nervous or just very excited. All these new faces, combined with a warm feeling of recognition. We recognize each other in this common strive to live in harmony with ourselves, each other and the world. To start a permaculture project, it is necessary to aim for a sustainable group dynamic as well. So how do we do this?

1. Zoning

Maybe you've heard about the zoning in permaculture. The zones of housing, vegetable garden, meadows or orchards etcetera. We also have these zones in the human spectrum; let's take a look. In order to connect with the other and outer zones, we will need to establish a connection with ourselves. So how do we do this?

2. Identify feelings and needs

It is important to ask yourself: what's alive in me at this moment? For example: if I am feeling joyful, calm, inspired, my needs are rightfully met. Am I feeling cranky, anxious or disappointed, my needs are not being met. From this point I own the responsibility to take an action to see my need and how it can be fulfilled. And for me to own the responsibility, it doesn't mean I have to know all the answers. This is an opportunity to ask for support.

One of the exercises we did is to write down a list of things we like about ourself. After that we wrote some of our needs. For example, making music together, walking after dinner, being respectful to eachother, having moments on my own. So we established this connection with 'Me'. The next step was to come together in groups of three and share about it. This created a safe space where we could practice 'Active listening'.

3. Active listening

Here are some tips on how to practice active listening. Remember that it is not necessary to be in this state of listening all of the time. Yet I invite you to start playing and experimenting with these steps and see how it works for you:

. Pay attention listen for the sake of listening, instead of reacting. Notice the body language and give your undivided attention).

. Show that you're listening (with an open posture, eye contact, use facial expressions).

. Provide feedback (reflect by paraphrasing: 'What I'm hearing is...'; ask questions to clarify: 'What do you mean when you say'; summarize periodically).

. Defer judgment (allow speaker to finish each point before questions, don't interrupt with your own point of view; it is your role to understand the other person and help the, find their own solution).

. Be aware of your attitude (aim for a comprehensive attitude, meaning: clarifying what the speaker expressed).

4. Self-organisation

Through this morning you can see we connected with ‘me’ and ‘the other’ so it was time to move to the next zone; the collective. Living together means that there are daily tasks to be done, and the question arises: how do we organise this? For me it was really empowering to be given this opportunity. The power I see is in the fact that we are able to propose, exchange, make amends and go through it as a whole. Here are some tips to support:

1. Consent

Instead of voting only for and against, we implemented a voting system where thump up is yes, thump halfway down is ‘I’m not really into this but I wouldn’t oppose it’ and thumbs down is a disagreement followed by a suggestion on how to improve.

2. Meetings

After a few days we come back on how the agreements are working

3. Sincerity

We take the courage to say what we dislike (or use the shout out box), and express our love by saying what works and acknowledge each other for this.

Design in permaculture

Introduction to Permaculture.
Permaculture started to form as an incipient idea on Joseph Russell Smith's book Tree Crops: A Permanent Agriculture in 1929. This book proposed to look at the world with a holistic view, inter-relating systems of trees and other crops through different experiments. Later on different projects and books kept progressing towards the idea of permaculture that we have today; until Bill Mollison, a senior professor in Environmental Psychology, and David Holmgren, a graduate student, developed the idea of permanent agricultural systems in Tasmania, Australia. They broadly defined permaculture as:
“a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labour; and of looking at plants and animals in all their functions, rather than treating any area as a single product system.”
This idea was based on three basic pillars:

Take care of the living

This concept includes both human and other living beings, taking into account human and animal wellfare while referring at same time to the energy we should be putting in our garden or crops.

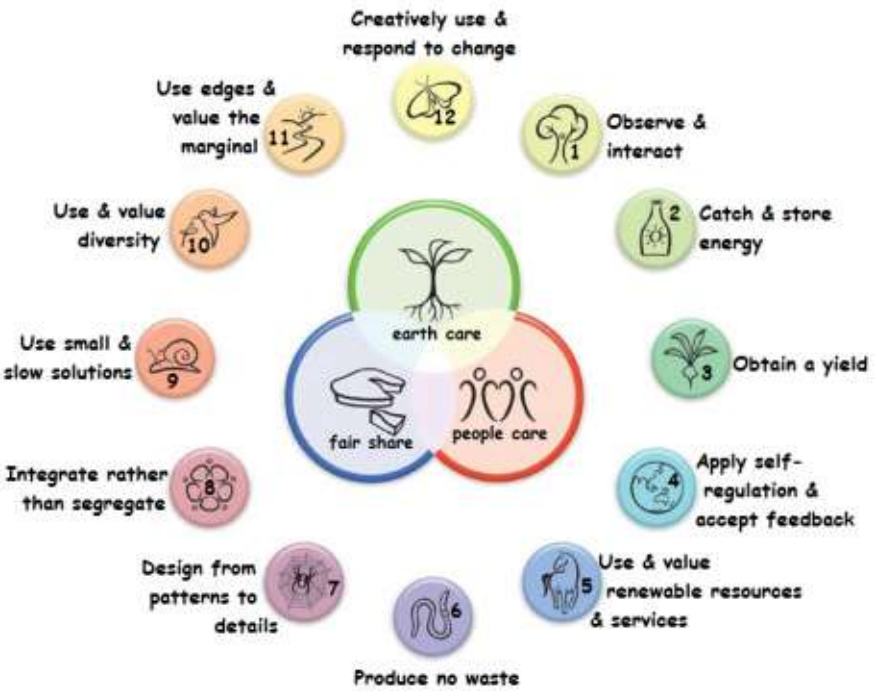
Take care of the land

To have a healthy and productive land that gives back all the energy and work we put in it, we need to take care of the land. But this idea also appeals to the land surrounding us and keeping space for the wildlife.

Faire share

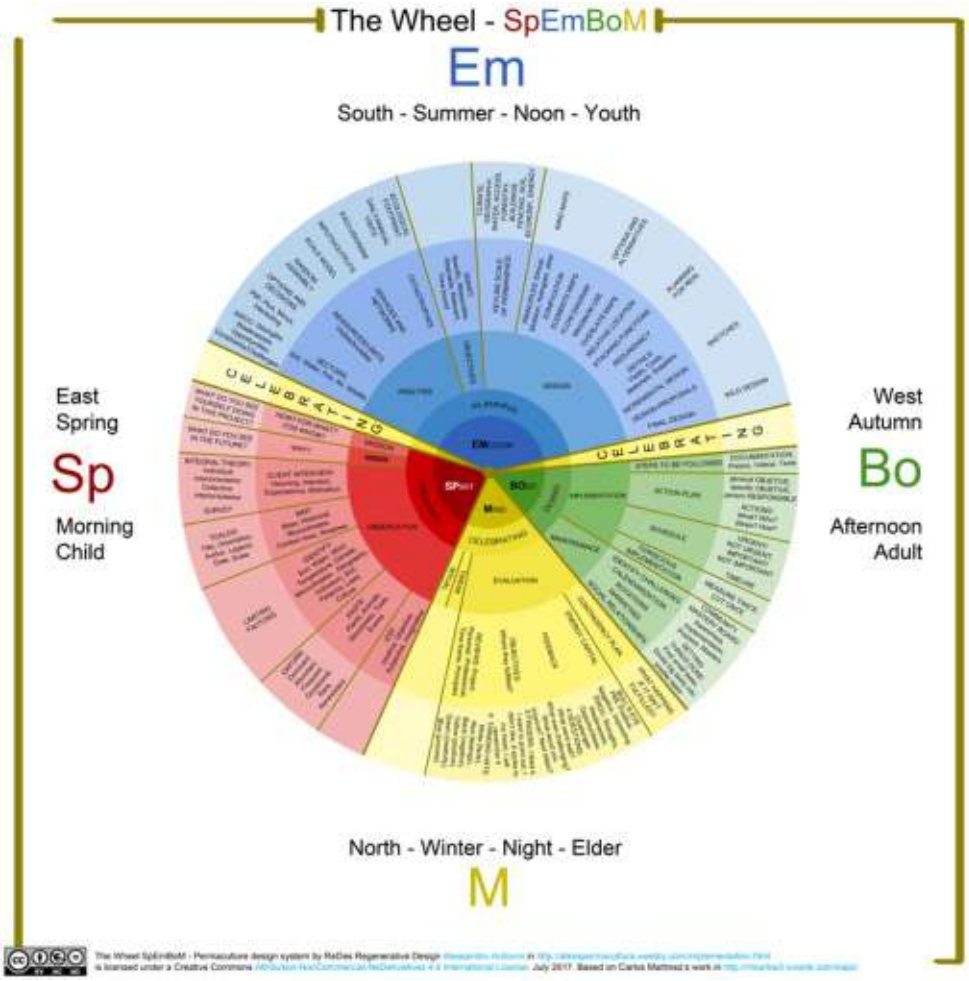
Everyone should take what they need and nothing more, leaving the rest for the others who need it.

These pillars are developed into 12 more specific principles, which are:



Theory of Permaculture Design

Taking into account the permaculture principles, a permaculture design can be based on the SpEmBoM wheel (inspired on the native American medicine wheel). The basic concept of this wheel is to give some broad steps to follow when carrying out a permaculture project. It starts from the centre, where we can find which human part is involved in each process, and goes to the outer circle where we find the questions and tools we could work with.



Reference to the creator of the wheel click here

The wheel starts with the spirit, where we should “dream” about the project, observing the possibilities of the land and visualizing the expectations we have about it. It’s important to ask ourselves what do we want to achieve? What’s the goal of the project?; but the most important part during this process is to dream without limit, to dream about things that are hard or even impossible to achieve because is the best way to go as far as possible. Then you should ask yourself why do you need the different things you planned.
Lastly, we should use different tools to gather data, for example we could identify the limiting factors, look up the historical background, make maps with the resources and biodiversity present on the landscape, etc. The goal here is to get a global picture of the project with all the aspects we can possibly take into account (concepts, time, space, human, material, nature, connections with the outside world, etc).
A nice starting point is to create a grid of 1 to 20 meters for each square and write down all the factors you can collect on those squares (plants, sun, water, wind, temperature, microclimates, soil, slope, shadows, etc.

The next step would be emotion where we plan our project, analysing the variables according to our project and designing it. A widely used tool is zoning, which is based on creating artificial divisions in our plan helping with the distribution of plan. The zones that we will design are:
Zone 0: Ourselves.
Zone 1: Centre of activities or house; things we need to use everyday or need a high maintenance.
Zone 2: Where we plant annual and aromatic plants, easy to access from zone 1.
Zone 3: Animals, medium sized trees and garden should go here, because it can get smelly and noisy, but at the same time you don't want them to be too far from zone 1 because you need to take care of them every day.
Zone 4: We should place things that take a lot of space such as ponds, large fields, forage fields and large trees.
Zone 5: This final zone is for the local flora and fauna, is a wilderness zone that you want to preserve, which can be beneficial to your project through ecosystem services such as pollination, biological pest control, etc.

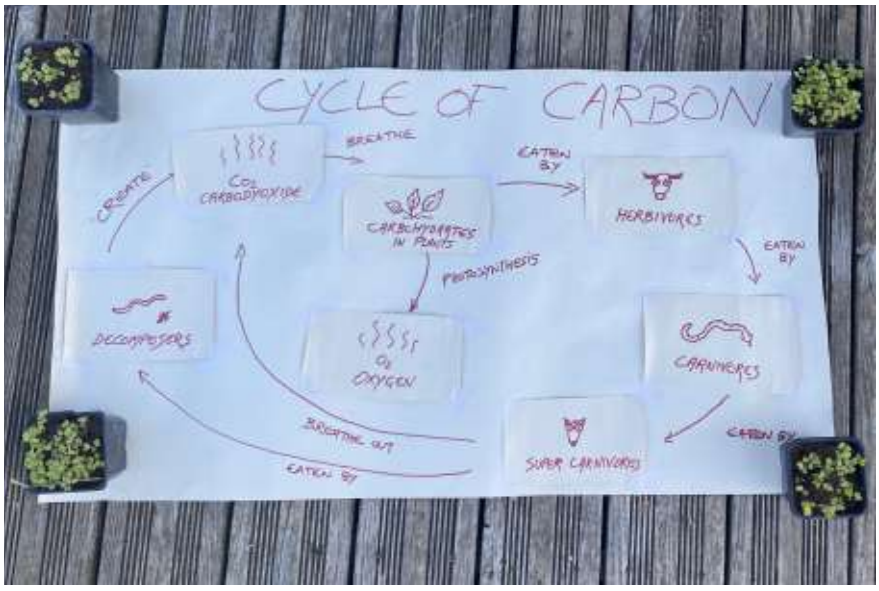
The following steps would be to work with the body, implementing and maintaining the project; and lastly we should work with the mind celebrating and evaluating the project and previous steps.
Finally but most important step is to celebrate each time we progress from one step to another, which allows us to take a step back and appreciate the objectives achieved.

Cycle of Water, Carbon and Nitrogene

When applying permaculture one has to take a closer look at the different cycles one finds in the environment. The carbon, water and nitrogen cycles are one of the most important components.

The cycle of carbon

Carbon dioxide plays an important role in the natural cycle. It is taken in by plants, who in turn transform it into oxygen by photosynthesis. The plants are eaten then by herbivores which are then eaten by carnivores in turn which are then finally eaten by super carnivores. The super carnivores breathe out CO2 and are eventually consumed by decomposers when dead. The decomposers create CO2 again and the whole cycle starts anew.

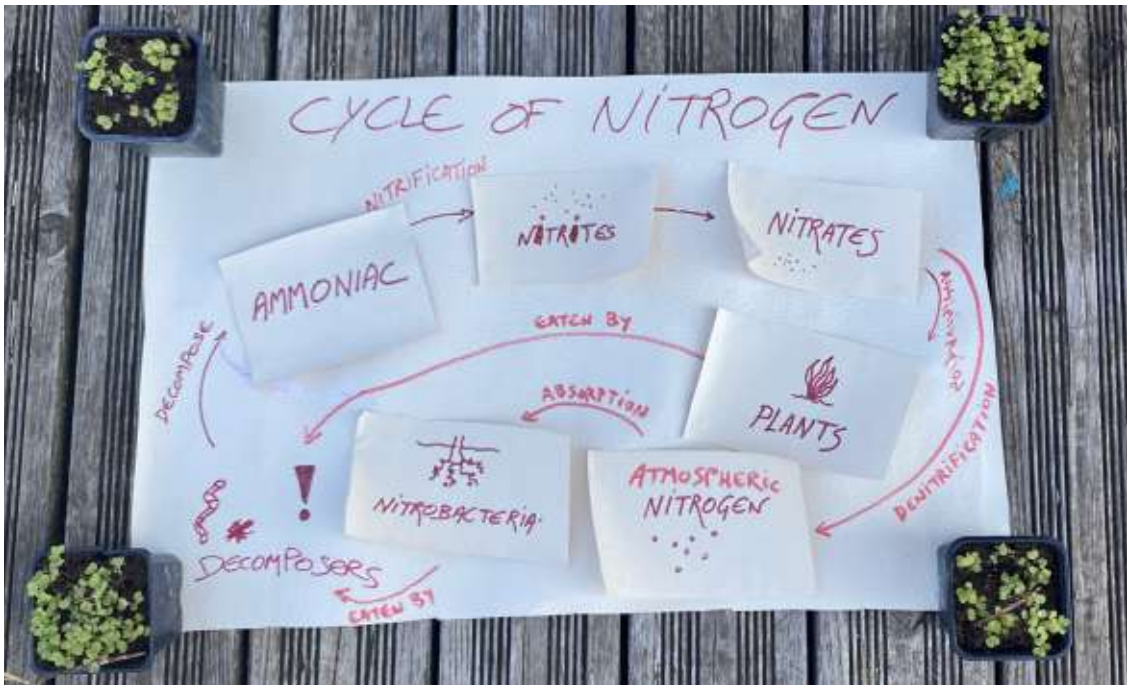


The cycle of water

Water is essential for our life on earth and so is it's cycle. The sun is driving this water cycle: Bodies of water and trees evaporate (meaning release water as gas) and create clouds. The clouds precipitate which we know as rain. Slopes in the terrain guide the rainwater to a collective spot - forming bodies of water who in turn leak water. The water seeps to deeper soil levels where it is stored in so-called aquifers. This water then is absorbed by the roots of trees and the cycle goes on.

The cycle of nitrogen

The flow of nitrogen is also essential in many aspects as it has different impacts on nature in different forms. Nitrogen in the atmosphere exists as gas N2. It can then be absorbed by nitrogen-fixing bacteria who live in (for example) the roots of legumes and is used as a valuable resource by the plants. It can also be transformed by nitrogen-fixing bacteria in the soil from ammonium to nitrite and from nitrite to nitrate. In the form of nitrate either plants can absorb nitrogen or it is released into the atmosphere by denitrifying bacteria. The plants are then consumed by decomposers who transform the nitrogen into ammonium again.
.



How to make a lasagne

(стъпка по!)

Step 1: Layer 0
Start with making a trench with the depth of around 20-30cm.

Step 2: Layer 1
Cover the ground level with some cardboard and make sure to remove all the tapes and prints from the cardboard if necessary. Place the cardboard in a way so it overlaps - like roof tiles. The cardboard will slow down the growing of weeds. At the same time it decomposes over time.

Step 3: watering
Put some water on top of the cardboard to help the carbon decompose.
Note: If you'll skip this step there may be a chance that the cardboard may not decompose, even over a longer period of time.

Step 4: Big branches
Cover the cardboard with big branches. Make sure the branches are as horizontally (flat) as possible.
Be aware that when you are using pine tree branches it will make your soil acidic.

Step 5: A smelly layer
Now put the already made compost on the branches.

Step 6: Repeat Step 1
It is cardboard time again.

Step 7: Repeat step 2
A bit of water everywhere (kapka po kapka)

Step 8: Repeat 3

Step 9: Repeat 4

Step 10: Soil
Put a 30cm layer of soil covering the branches.

Step 11: Final straw
Cover the soil with some straw to prevent the sun and the wind from compacting the soil and keep the soil moist and to stop weed growth.

Step 12: Celebrate

Eadible plants

Somes rules before you pick wild edible plants!

1- You should be focus, and really be sure about the plant you're picking.
2- You should check carefully for bugs and slugs on you plants (so you don't have to check it twice)
3- You should take the beautiful leaves or flower.
4- Take only your just need and let the rest for the others (birds, insects, animals)

Plantago.

Good for moskito bites, put the leaves juice on the bite.
When you cut yourself you can chew some and put it on your wound.
You can use it in a salad, it has a mushroom taste.

Verbena officinalis

Dendelion

You can use the flower to do a gele, they are edible such as the leaves. Always, take younger leaves so it's better.
In spring the stalks can be eaten as a leaver detox. On stalk the first day, two the second and so one until 12 days. And then you decrease. It total it means 24 stalks.

Red cloves

Good for the soil, they give back nutrients to it when you use it in a mulch.
You can also eat the flower in salad.

Lavander

It's a good plant for relaxing, you can eat the flowers in salad. In infusion, the flower is powerfull to treat the cold.

Malva

You can eat the leaves and the flowers in salad.

Melisse

Is a relaxing and digestive plant. Consume it in infusion or salad.

Tanesia

A good plant as an insect repelant. Don't eat it it's toxic.

Daisy

This plant is good for the muscular pain. We call it the arnica from the field.

Serpolet

It's a wild thym, which is good for the cold, you can drink it in infusion. You can also eat it in salad. It is full of essential oil which is good for throat inflammations.

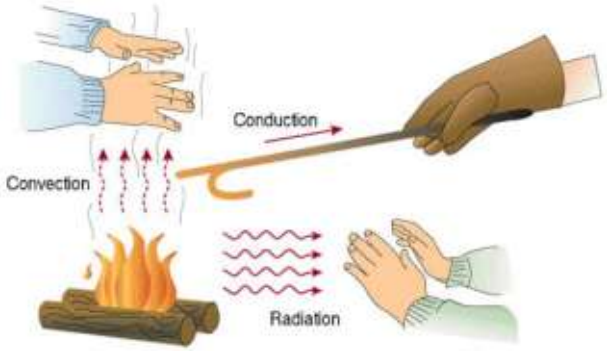
Green energy

What is energy?

It is the quantitative property that must be transferred to a body or physical system to perform work on the body, or to heat it.
The most important ??? to consider is the Law of Conservation of Energy. Energy can neither be created nor destroyed, it can only transforms.

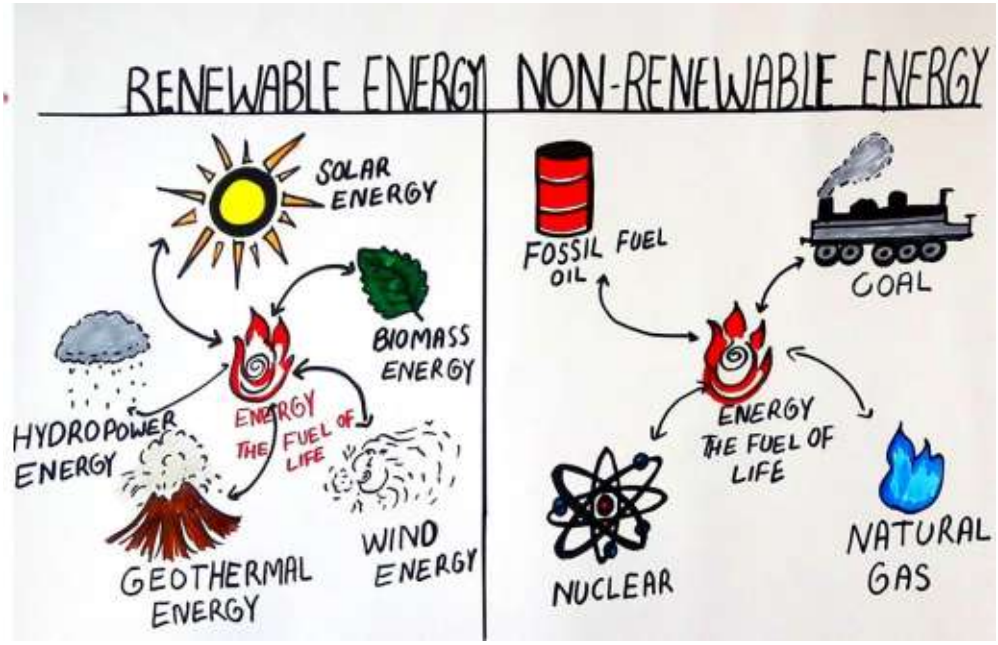
How can energy be transformed?

There are 3 ways of transforming energy:
- conduction: energy is transferred by direct contact
- convection: energy is transferred by the mass motion of molecules (eg. some radiatior cf related to gaz)
- radiation: energy is transferred by electromagnetic radiation/waves (eg. fire)



What kind of energy is there?

We do have renewable and non-renewable energy sources. For our needs we want to focus on renewable energy resources because there is only a limited amount of fossil fuels on the Earth.

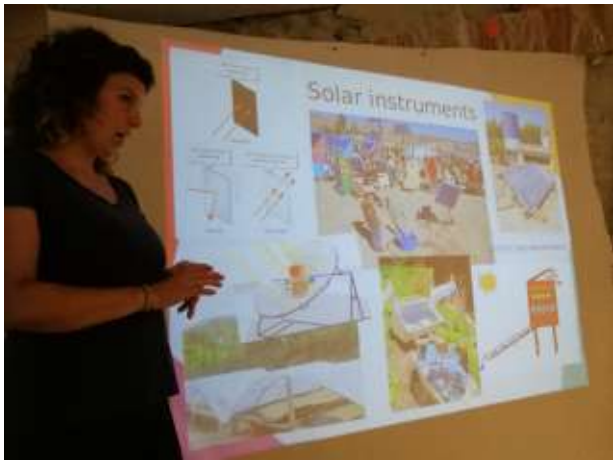


Solar Energy

Energy coming by the sun. As the sun and the Earth are constantly moving, it is crucial to know the movements of the sun to gain the biggest amount of energy. See the following link for a better understanding.
Link to sun movements: "Introduction to Solar orientation"
(https://solarschoolhouse.org/solar-orientation-video/)
Instrument to measure the sun is a kind of rule.

Solar energy can be captured by three different principles that depends on the type of materials:
- absorption (eg. dark/black colours absorb radiated heat)
- reflection (light colours reflect radiated heat, aluminium)
- transmission (pass through): clear materials such as glass transmit radiated heat

Side note to consider: Best insulation material is the air. In windows there are one to two layers of air.



By using those principles, some instruments we can do ourselves easily, like a solar dryer. The cold air flows into the installation that is heated up by the sun. According to the natural flow of the hot air, it rises and dries the fruits that are put in the shelves at the same time.
For constructing a solar shower there is to consider that, like the air, hot water goes up. Water pipes Installation should be built horizontally so the water in the pipes goes up with no need to have a pump.

Wind power

Turbines transform the wind energy to electricity. For having the greatest output, criteria are a high velocity of the wind and the height of the wind installations. For DIY, there are not many projects to do.

Water energy

By the flow of water, thus the kinetic energy, electricity can be generated. As an example for an eco-method, a river is led through a building. The water brings the cold with it and cools the house naturally.

Geothermal energy

For this form, we use the constant heat of the ground in the Earth transported by pipes to the building. There are also not that many DIY projects possible.

Build a project as a community

Ron Finley - A guerilla gardener in South central LA (video)

Definition of community
a group of people living in the same place or having a particular characteristic in common.

When you feel you want to live out of the busy cities and you want to be part of nature you can decide to live somewhere in the country and make your own project and style of living.
For doing this it is recommended to follow this steps:

Transition manual (Rob Hopkins):

List of 7 "BUTs":
- no cash
- no authorization
- it already exists
- too late
- no skills
- no energy
- no one cares

How to start?
Step 1: initiation group. Key to a lot of projects. At some point, this group will be dissolved.
2: sensibilization. Make yourself known.
3: start with basics
4: big liberation (moment when become visible to the rest of the world)
5: subgroups. When initiative grows bigger, people want to work and divide into smaller groups. When at least 4, the initial group disappears...
6: open forum
7: events to be visible
8: requalification (we are all students)
9: administration
10: honor the elders
11: go with the flow
12: energy reduction

Guest testimonial : Frédéric
Comes from an ecovillage, in the ideas of the oasis from Pierre Rabhi. He was part of the association "Au Coeur du lien" and "Mycelium network".

Information about the cities in transition
Information about Oasis movment

Forest functionment

How to grow an edible forest

There are two ways to plant a forest:
Following the rules of the agroforestry
Growing an edible forest - combining trees and crops in the way that they actually help each other to survive and expand, and produce for animals, insects, each other, and you. The following text will elaborate on how to plan and start a food forest.

<u>Existing food forests in Europe:</u>
Belgium: Les fraternités ouvrièrs de mouscron
Pyrenees: Phillip Forrer's food forest garden (although apparently he doesn't really like visitors)

An edible forest contains 8 levels:
Level 1: Roots & mushrooms: carrots, beetroot, potatoes, clover, strawberry, lettuce

Level 2: Ground covers (plants that don't need much sun): strawberries, parsley, sage, all the herbs, lettuce, pumpkins, courgette, cucumber, clover, plantago, phacelia, comfrey

Level 3: Small bushes/shrubs: raspberry, blueberry, yam, cassave, some herbs, small fruittrees and fruit shrubs

Level 4: Herbaceous (<5m): cereals and grains, nettle, elderflower

Level 5: Understory, fruit trees (>5m): prune, apple, pear, banana, peach, cherry, hazelnut, all the fruit trees (except walnut)

Level 6: Canape/upperstory: walnut, big apple tree, willows (for its growing powers), chestnut, oak (but don't let the oak invade the forest)

Level 7: Help fix the nitrogen. Nitrogen fixers: beans, peas, quinoa, legumes, moringa, acacia (it cannot rot - really good for building), robinia. 20÷ of your surface should be filled with these plants.

Level 8: Climbers: kiwi, squash, wine, courgette, cucumber.

<u>Books to read:</u>
'How to Make a Forest Garden', Patrick Whitefield
'Creating a Forest Garden', Martin Crawford

1. Observation & Analysis

Observe your land for one year minimum, before you do anything. Observe the sun, wind, water, moisture zones, slopes, plants, climate, water sources, soil, etc. Plan carefully, in order not to have to do anything again.
Gather all the data & make a map. Microclimates are really important, and check all the Design Analysis List. Check all the plants for bioindicators: think about how to use them, and how to loose them.

Soil: clay, sand or silt. To check the soil, there are 2 ways:

1. Take a handful and roll it into a ball with your hands. If it falls apart: the soil contains a lot of sand. If it holds really well: the soil holds a lot of clay. In-between: lots of silt. This is very fertile ground. The darker the soil, the richer in nutrients.

2. Dig 15 cm into the ground, and fill a jar half with soil, the other half with water, and leave 1 cm for air. Shake it really well and put it aside. After 1 or 2 days, the soil will separate: the upper layer will be clay, middle layer will be silt, and the down layer will be sand. You can check pH value easily by buying a test at a local farmer shop.

Although, it is highly recommended to do an official soil check in a lab of your land anyways, to be sure. Take pieces of your land on a few different places to have a broad overview of your soil.

2. Notes, maps, logbook

Materials you need: sheets of paper and pencils to make maps, tracing paper for the different aspects of the land and design

Make a logbook for every season: rain, plant life, etc. But don't mix observation & interpretation: make two different maps, what you see and what you think it means. Lay the tracing papers on top of each other for a good overview of the land.
Make an on scale map with a grid (see section on grids): an overview of the plants, the structure of the land, slopes, features, water, shades, climate, humidity, water sources, soil, etc. (see Design Analysis List). Make the grids preferably 1x1m, maximum 20x20m.
Make your ideal food forest/design on a second grid, with tracing papers for all the different layers of (existing and) potential plants, watersources, slopes, etc.

3. Needs evaluation

What is your plan? Ask yourself these questions:

1 Vision: why do you do it? Why does the plan exist? What is the purpose? What quantity do you want to produce and why?


Camphry plant

2 Mission: who is going to do what? How many people will work for how much time? How much effort does it cost?

3 What to keep & what to toss?

4 What space & time do I have?

5 Food needs: comparing needs to tree production & conservation time: how to store? Check tree production on the internet.

6 Avoiding plants that are heavy to maintain (since you have a lot).

7 Important one: How do you separate the zones of your food forest? Think about the things you want to implement, for example: beauty, playing space, food production, experiments,biodiversity, medicinal plants, wood collection, water filtering system (through plants - phytopurification), mushrooms, pathways, animals, flowers (for pollinating and beauty), insects and their homes.

8 Nitrogen fixing plants: where and how much? 20% of your design should be filled up (in surface, not volume) with nutrient fixing plants. Plant them first! For example, acacia, robinia, alfafa, celeagnus, all the legume trees (bean family). Put them on a slope (if you have one), so the water can transfer the nitrogen down the slope to other plants. Put them on the north slope, so they won't take the sun away from your productive plants. Otherwise, scatter them throughout the design so all the soil will get its nitrogen. Start your design with these trees.

4. List of Plants & Trees

1. Canape/upper story: check how wide your trees will be in adulthood (internet). Draw them and cut them out, so you can place them on your design. They should be at least their adult size apart from each other, but rather even more, otherwise they will take all the light from the understory and ground cover. You can even go to your land with a large bag of sand or robe and draw their adult size on the ground, to be able to envision your grown up forest in order to design the rest.

2. Understory: ent your plants! Also, multiply the edges of your land. The most biodiversi is always found on the edges of the land/forest. You can plant the shrubs that won't move until they die already, so you will have some production from the beginning (after observing the land, of course).

3. Ground cover: don't spend too much time on it (while planting the trees). But don't underestimate it: don't let the weeds take over. Maybe you can put a temporary cover: phacelia, clover, alfafa. If you have no time, just cover it with lasagne or something else that will prevent them from creeping through. Try to learn about plant guilds (which plant goes well with which), but experiment (since we only know 4% of what there is to know about plants). Ask others/experts: go and see how they did it. Trial and error!

5. Costs

Evaluate the costs: maybe you need earthworks, compost, trees, materials: how much can I spend. Always go for quality, otherwise you have to do everything again in just a few years.

6. Start

1. Go slow, so you won't have to spend a lot of money at once, so you can save some energy (since it is a lot of work), and so you have time for other things as well. It is a proces of adapting anyways, you can't do everything at once.

2. Start with the permanent elements, things that are not going to move. Infrastructure, trees, buildings, waterworks, energy collection. For the planting of trees and making of wind barriers:

Plant trees:

Dig a whole of 1mx1m and 20cm deep. Add carbonous material (branches, logs, etc.) and soil. Put the tree in and scatter the roots in all directions.
Only water the tree at the end of the roots (where the water falls off the leaves), so the roots will have a good reason to grow. Water them for 5 years, afterwards they can do it themselves. Water is priority #1. Your tree will need around 20 liters the first time you water it.
Don't spoil it with compost, because it will create weaker trees (they won't know how to find the nutrients themselves).
Try to place the trees on contour lines, so the water will stack on the same altitude. In this way you know where the water is, so you can use it and design it's flow. You can find the contour lines by using a big tool in the shape of a triangle, with a stone hanging from the highest point. Walk with the triangle over your land in a straight line, by using the stone as a measuring point: it should point straight down. In this way, you know where the contour line is. Plant your trees on it, and maybe dig a swale just before the trees. The swale will collect the water and water your trees. The trees will send the water through the soil to the other plants. It also prevents flooding and erosion. If there are no slopes on the land, make a little hill of soil around the tree.

Start with planting the nitrogen fixers (to prepare the land for the other trees) and the sacrificial trees (for cutting to make biomass). Tip: go to the neighbors and see what plants they've planted, how they grow, and what invasive plants they have.

Make wind barriers:

To protect the trees. See where the wind comes from and make food hedges. You can make the barriers out of edible hedges, like raspberries, or use thorny plants to keep the unwanted animals away. Use dense shrubs that come together in a line (blackberries, hazelnuts). But make it 80÷ dense, wind has to come through in order not to make a wind explosion after the hedge. Also, don't plant vegetables too close to the hedge (due to the stronger wind just behind the hedge). Place your plants between 3 and 8 times as far as the hight of the hedge/barrier. So, if your hedge is 2m, your plants should be at least 8m away. You can also make multiple hedges, so the wind will be shattered in many directions and will loose its force.

3. Protect the trees. Use iron nets for example, make sure the animals or plagues will not eat the young baby leaves and branches.

4. Get rid of invasive weeds. Cover the ground with heavy much/lasagne, geo-textile or plastic. Or use your hands!

5. Use mulch as well to restore, prepare and protect the land. Cover your ground! But don’t do it too much, since it will prevent the ground from heating. In the spring, use light mulch like compost and hay. In the autumn, use heavy much like carton, branches, soil and hay or wood chips. This will prepare and protect your soil for spring time. In the beginning, grow a lot of sacrificial trees, so you can use them for chopping and dropping: to make bio-mass. Chop and drop 3 to 5 times a year, they will help the composting proces.

For more inspiration: Google ‘chinampas’. Inca’s used to make little islands in the river of river soil. The islands would be filled with edible plants. Left over fruits would fall into the river, and provide food for the fish. The fish would thrive, so the humans could eat some as well.

And of course, use the permaculture design wheel for your project.

Design Analysis List

Check all these elements while observing and analyzing the land. This list comes from Edible Forest Garden (vol. 2, p. 193). Bold data are particularly important.

Climate
. Rains: amount, season
. Latitude
. Wind (direction, strength)
. Frost dates (+/-)
. Temperatures (min/max)
. Potential climate extremes (fire, tornados, inundations)

Landscape
. Slopes: orientation, inclination, localisation
. Topographic position (ex: valley, hilltop)
. Geology: porosity, depth, amount of nutrients, acidity)
. Depth of the fertile soil
. Altitude

Water
. Existing water supplies: localization, quantity, quality, reliability, season
. Hydrographic flux design: concentration zones and scatter pattern
. Potential pollution zones
. Potential water supplies: localization, quantity, quality, reliability, season, infrastructure costs
. Localization of wells, sceptic wells, underground pipes (on site or nearby)
. Potential and existing zones of erosion

Legal questions
. Ground occupation plan
. Some legislations mention a mendacity distance between trees and grey water evacuation, or other items
. If the site is nearby a wetzone, there might be regulations about vegetation modification, site modification or erosion control
. Restrictions about invasive plants
. Restrictions, but als subventions, about animals

Traffic and accessibility
. Activity hubs and storage zones
. Access points for pedestrians, vehicles, equipment: potential and actual flux
. Material flux: mulch, production, compost, heating wood, laundry

Plants and wildlife
. Existing species: localization, size/quantity, distribution, use, characteristics (invasive, disperse, poisonous, medicinal, bio-indicators)
. Ecosystem architecture: the different layers and their density, distribution and diversity, habitats

Microclimate
. Definition of the different microclimates
. Distribution between light and shadow
. Cold winds and frost hallows
. Distribution of the moisture in the ground

Buildings & Infrastructure
. Size, shape, localization of buildings, doors & windows, actual and potential functions
. Paths and snow piles after path cleaning
. Power lines and plugs
. Exterior water tap, treatment systems, wells
. Underground pipes: drainage, sewers, water pipes
. Fences and portals

Activity zones
. Property borders, access paths, rights to use them
. Existing zones regarding water or animals
. Present use by neighbors and wanderers
. Past uses, impact on the site, present and future uses

Fertility and soil management
. Soil types: texture, structure, consistance, profile, drainage
. Fertility of the fertile layerL pH, N, P, K, Ca, percentage of organic matter
. Pollutants: lead, arsenic, mercury, cadmium
. Management history

Resources
. Existing resources on site, actual and potential: what, when, where, quantity, quality, uses
. Existing resources coming from the exterior: what, when, where, quantity, quality, uses

Humans
. Owners, users, vision, desires, problems, history and experience on site
. Relationships users, owners, neighbors
. Relationships with local people and authorities
. Connections to the local networks

Esthetics
. Rooms and exterior walls (ground, walls, roof), quality, feelings, functions, characteristics
. Lignes of sight and corridors: define them, exterior and interior, potential and existent ones
. Visual integration: elements alignment, unity and diversity, composition, textures, colors,
. Separation between public and private spaces, formal and informal
. Unique elements connecting to the site, neighbors, region
. Dissonances: noises, sights, feelings, spaces
. Qualities, experiences, global feelings

Create a forest (game)

The goal of the workshop is to encourage the participants to think about how a forest could look like and design one as a team.
Necessary materials:
- from natural origin (potted plants, stones, branches, etc.)
- human-made (bed covers, brooms, yoga mats, clippers, etc.)
- crafted (origami, paper cuts, etc.)

Steps to be made:

1. Think about the materials that could be used and where they could be found.
2. Collect them.
2. Assemble them together.
3. Place them in the provided space.

Additional tips:
At the end you can ask the participants to imagine what kind of plants are they (one plant per participant) and to go find their habitat in the forest they created together.

Do Our Own Seedlings

We want to share how to grow new little plants out of seeds.

1. Buy seeds, be careful on the kind of seeds you would choose. The F1 type is non reproductive seeds. Means if you harvest the seeds from the veggies it's gonna give, you won't be able to have new seedlings. Also prefer old varieties veggies than GMOs one. Buy appropriate soil (extra fine and light) and pots with holes at the bottom. You can also recycle them or create new one out of metal cans.
2. Fill the pots with the soil. Leave space (1 finger thick) for a layer of soil with sand. Don't pack the soil down at all. The new roots will develop easier if they have space.
3. Place the seeds on the soil in the pot. Do not press them.
4. Add a mixture of soil and sand on top of it. more soil than sand. The is usefull to keep the humidity/
5. Write name tags in order to recognize them later again.
6. Put the pots in water for one night so the soil can be soaked in water (do not water them. It is crucial that the soil is moist but not wet!).
7. Leave the pots at a bright and warm place.
8. Enjoy watching them grow and don't forget to water them by puting them in a pot of water until the plant soaked the water. The water is a better quality if it comes from rain. If you only have tap water, then let the chlore evaporate first in a jar before using it. And most important, don't forget to give them love.

After they have grown a little bit and need more space, you should separate them. Follow the next steps.
1. Remove the pot.
2. Carefully separate the plants. Take care to not damage the roots.
3. If needed, cut off the long roots so the plant can build bigger roots.
4. Overfill the pots with a mixture of soil and sand so that there is a pile on top of it.
5. Place the baby plant in the middle of the pile. With two fingers press the roots into the soil.
6. Compact the soil on the side of the pot until its sides are a bit outwards shaped.
7. Decompact the soil again by knocking on the sides of the pot.
8. Do the two last steps twice.
9. Put the pots in water until the soil is soaked with water (do not water them. It is crucial that the soil is moist but not wet!).
10. Leave the pots at a bright place.
11. As soon as the plants are big enough, transfer them into your garden.
12. Give them more love. <3

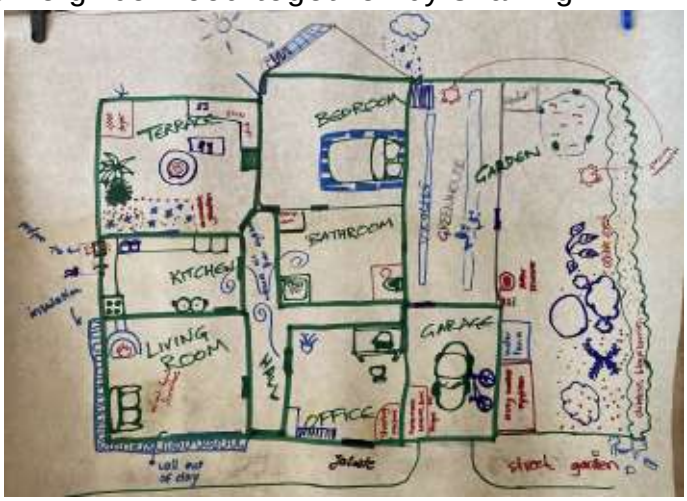
Some Advice For A House Without Bills

In permaculture, regenerative living is one of the most important things. This could be implemented in your economical, social, cultural, and communal life. To be self-sustainable, a lot of improvements can be made in your day-to-day life (also in a city). Think about a system for zero waste, reusing your water, growing your own food, composting, generating your own energy (wind, water or solar), creating your own heating and cooling system and taking an active role in the community.
As an example, try to think about how a house or a shop could be transformed into self-sustainable places:

The house

To make a house self-sustainable, you could add different things to your living space:
1. Reduce waste: make a dry toilet, make compost from your kitchen waste, recycle plastics, reuse water
2. Produce energy: use water and wind turbines to create energy, install solar panels (it depends on your climate) & minimize energy loss: insulate your house well (for example with clay and hay), use a bike or an electric car.
3. Grow food: make a vegetable and fruit garden
4. Create a heating and cooling system: underground geothermal cooling system, good ventilation, heating with fire
5. Support the community: make a street garden so people can take food, help with gardening and be inspired. Bring the neighborhood together by sharing.

The shop



The same counts for a shop:
1. Reduce waste: only sell package-free products, make meals and compost from the older vegetables
2. Produce energy: use water and wind turbines to create energy, install solar panels & minimize energy loss: insulate the shop well.
3. Grow food: make a vegetable and fruit garden to sell in the shop, make a little cafe where you use older products for daily meals. Use the compost for the garden.
4. Create a heating and cooling system: underground geothermal cooling system, good ventilation, heating with fire.
5. Support the community: let people help in the garden, prepare food together, sharing older food with people with less money, educate people on sustainable living by giving the right example and organizing events in the shop-garden

Urban Permaculture

We went through some techniques to gain space, for example on a balcony : installing climbers (cucumbers, beans, corn, squash), maximizing the vertical space like the layers of a food forest, growing several species with different growing durations in the same spot, hanging strawberries or squashes from a pergola, hanging vegetables outside of your balcony, window farming, aquaponics, mushroom growing, kombucha in the bathroom, use of mirrors to get more light.

We also saw some urban initiatives as Incredible Edibles, shared gardens, green roofs, green tagging, guerilla gardening and gangsta gardening, but also musicians promoting permaculture (Pang, Vienna Vegetable Orchestra)

Then we used our knowledge to design together a 5-year ecological transition plan for a city. We would be splitted in 4 groups : green technologies and energy, social justice and happiness, mobility and communication, and food production. In 90 minutes we had to develop all these aspects, trying to work on synergies between the groups, and inspiring ourselves from the 12 steps of the transition town manual and the permaculutre principles.

Testimony of a permaculture project

Five years ago, two women bought a piece of land in the mountains in Ariège. The land used to be filled with cows, that ate all the plants and put too much nitrogen in the soil, therefore a blockage of nitrogen prevented the plants to reach the nutrients. To solve this, they planted nitrogen fixing plants. When they turn into compost, they put new nitrogen in the soil, which makes it available for the other plants to access again. Now, the land is full of flourishing plants, fruit trees and vegetables. They use their fruits to make jams, and dry them to sell. The land regained its strengths, wild animals started to return, and all kinds of plant species revived.

The women used the permaculture principles for their design. They observed the land for a whole year to figure out where the water comes from, what the soil is like, how the seasons are changing, how the sun is moving. After a year, they started to plant the first trees. Trees take longer to grow, so they placed them pretty soon. They placed the first trees on the piece of land that has the most moisture, to give them a good start and to observe how they will grow. To minimize the chances of erosion, they dug five ponds to lead the water through the land. The ponds are placed on specific altitudes, so the water will not go downstream too fast. After planting the trees, they started to grow vegetables for their own consumption. This year, they built a commercial greenhouse to maximize their yield.

One of the most valuable things they've told us, is that the observation doesn't stop after one year. They keep interacting with and adapting to the land and the living things on it. Theory is important, but practice always turns out to be different. New challenges arise every day. Observe & interact is the most important principle for them, because it determines their daily life and how they run their farm. For example, they noticed how wildlife can't migrate from the forest on the left of their land, to the forest on the right. In order to preserve the fruit trees, they made a passage for the wildlife to pass through their land. Due to this passage, the wildlife will safely migrate through the landscape, without eating or destroying the fruit trees. They even planted "sacrificial" trees on the edges of the passage for the wildlife to eat. The women noticed the wildlife has enough food in the forests, so, most of the time, they just leave the trees be. Before we left this idyllic paradise, we drank their flavorous apple juice and delicious dry fruits.

Re-Imagining The Zero Waste

Aim of the workshop:

The problem we all face as a society is not that we consume, for we can not survive without doing it. The problem is that sometimes we tend to ONLY consume or produce enormous amounts of goods to be consumed. The aim of the workshop is to provide the youths with some guidelines on how they can redraw the curve of the consumption and slow down the climate crisis with the choices they make on a daily basis.

The six principles are:

1. Refuse

Refusing to buy is the easiest way of lessening the clutter, but the hardest thing to do, if one`s used to shop whenever one desires to. My advice is to always keep this question in mind:
Do I really need the item? If you feel unable to answer right away, try with some subquestions:
Am I going to appreciate the item?
(or am I going to blame myself for the price that I paid for it/lose interest very quickly because it was something I wasn`t really passionate about)
Am I going to use the item?
(or it is not practical at all/I don`t have a place to put it/I don`t know how to deal with it and I`ll just leave it in the corner and forget about it for 20 years until I suddenly stumble upon it and it`s already something I don`t want to have around)
Am I going to take care of this item?
(or it`s quite possible that I forget it somewhere for a long time and it decays/gets lost)
How am I going to feel if I don`t purchase that item?
Remember that you`re not obliged to resist all the temptations. If you try to do it, it`s likely that you become irritable because of your decisions, jealous to the others, to sum up - unsatisfied with your life. As Oscar Wild once said, “The only way to get rid of temptation is to yield to it.”, so don’t prevent yourself from feeling joy and follow his advice from time to time.

Concrete example: I`m reusing a little box I had from my hand cream for my solid shampoo, instead of buying a new container

2. Reduce

Do not forget that:
- Refusing is reducing, seen in broader perspective. If you refuse something, you will also reduce the possible amount of things you are going to possess.
- Reducing is finding a new home for the things you no longer need.
- Reducing also means putting some more jumpers on and skip turning on the heater, having dry toilets and skip wasting 9 liters of water every time you pee and any way of saving energy and resources you could think of.

Concrete example: I reduced the amount of cosmetics I use to the most necessary things.

3. Reuse

Not everything in life we can (toilet paper) and must (website content) reuse, but we can always ask our creativity to provide us with new angles of looking at the world. One of the most interesting aspects of the zero waste lifestyle is the reusing or the upcycling. This term stands for finding new purpose of your old stuff and therewithal sparing the energy, that`ll be otherwise mandatory for the goods to be re-cycled.

Concrete example: When my favorite umbrella broke, my Granny sewed some little bags for nuts from its fabric. They are in two sizes and as they are made from an umbrella, they are waterproof, easy to be cleaned and they can not get stained due to the nuts` fats.

4. Repair

Everything changes, whether used or not, and sometimes change is equal to destruction. But don`t you stress yourself – you can always choose repair over repurchase:

You can repair the thing by yourself. There are many manuals and You Tube videos on your disposal. If Jacinda Ardern, the PM of New Zealand, can trim her socks, come on, you can do it too!

You can ask a friend. What about exchanging his service for a meal prepared especially for him or for something you can do for him in return.

You can support your local watch-, coffer- or shoe-healer. It is important to help the small businesses to thrive, so that the people behind won`t starve or emigrate as a result of the lack of work.

5. Regift

There are many days we spend celebrating. Each of us occasionally receives gifts that are not really meant for him because the givers don`t really know him that good/his taste changed from the last time he and the givers saw each other/he already has the thing that was given to him. With regifting the gift would not:
- be returned to the person, offending or saddening him;

- be stacked somewhere to catch the dust;
- be thrown away, wasting all the resources needed for it`s production and rejecting all the love it was given with,
but it will find whoever to truly enjoy and use it. Sometimes one man`s trash could be another man`s treasure!

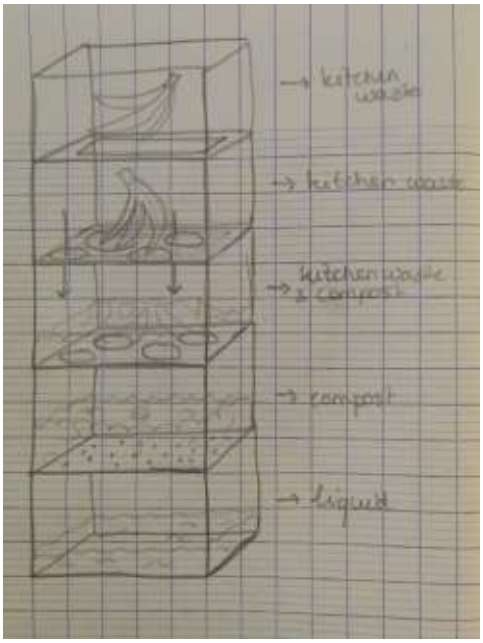
Concrete example: I have a nice piece of cloth I`m using for binding my head. It was regifted to me from my close friend, who received it as a compliment for buying several drinks from an international brand. I love the fact she thought I might like it and gave it to me instead of just hiding it in a drawer.

6. Recycle

There are myriad of types of recycling:
recycling of cardboard and paper, plastic and metal, glass;
recycling of clothes and home textile;
recycling of organic waste (composting is, in a way, recycling too).
When we think of recycling, we normally think of the first option presented. It is a good start for delving into the zero waste life, but it is actually the last thing to be done when there is no other profit we can take from our possessions. When we recycle, it`s important to know that:
We have to check if the product we want to recycle could be recycled in the municipality we live in.
We have to look for the recycling signs on the packaging.
If we find the signs, it`s important to carefully wash the packaging and compress it as much as possible.
It`ll be great if we can separate the different types of materials a product consists of (for instance, the lid, the ring and the label from the plastic bottle).
Now we can divide our recyclable trash and throw it in the right container. Voila!

Create Your Worm Kitchen Compost

In order to implement one of these sustainable solutions into our houses, we learned how to make our own compost. The principle is simple: throw in your kitchen waste, let the worms do the work. The compost tower is made out of plastic boxes on top of each other, connected with holes for the kitchen waste, compost and worms to pass through. In between the layers with the holes, there is a grid for the worms to pass through, and the fresh compost to move to the next box. The whole tower is painted black, to store heat and create a nice living environment for the worms.



The tower contains 5 layers:

1. Fresh kitchen waste with a big square as a hole for the waste to fall through
2. Compressed kitchen waste: the waste starts to compost with help of the worms
3. The box with kitchen waste and compost combined. This box will be the most inhabited by the worms.
4. The fresh compost falls through the holes into a lower box: fresh compost to use
5. A box for the dripping liquid. There are tiny holes in the lid make sure the fresh compost can loose its liquid.

Home made toothpaste

Toothpaste has various uses, such as freshening the breath, helping to prevent oral problems including halitosis, whitening the teeth and helping with overall teeth cleanliness. However, it can be easily made at home using basic ingredients and a simple procedure.

1. Toothpaste with baking soda and water
Take one teaspoon baking soda
Add one drop of an essential oil(s)
Add a few drops of water

2. Toothpaste with baking soda, salt and water
Take one tablespoon baking soda
Add a tablespoon of natural salt
Add three drops of an essential oil
Add a few drops of water

3. Toothpaste with baking soda and coconut oil
Add two tablespoon baking soda
Add two tablespoon of coconut oil
Add ten drops of essential oil
Extra info

We also added Charcoal and white clay. They could be used in similar amounts as the baking soda. If you have sensitive teeth, baking soda can sometimes be a bit aggressive. In that case you can replace it with clay or grind the baking soda.

Home made deodorant

This is a quick guide on how to make your own deodorant easily at home. This way you can reduce your waste and avoid using chemical products.

Ingredients for one container:
2 spoons of Maïzena (cornstarch)
2 spoons of coconut oil
2 spoons of bicarbonate / baking soda
Few drops of essential oil

Recipe:
Melt the coconut oil in a water bath.
Mix the liquid oil with the bicarbonate and the cornstarch until you have a homogenous paste. If it is too liquid for you add a bit of cornstarch and/or baking soda. If it is too solid, add coconut oil.
Add a few drops of essential oil depending on which smell you want.

Caution:
The coconut oil melts at a certain temperature so either store it in the fridge in summer / hot regions or make sure that the container is properly closed.
The bicarbonate may cause skin irritations during the first days. Don't use it if the irritations don't disappear after a while

Home Made Soap

Main aim of the workshop: To teach the youngsters how to prepare soap at home (natural, fair trade, vegan, packageless).
Materials needed:

Ingredients
caustic soda (134,5 g)
olive oil (800 g)
unscented coconut oil (170 g)
beeswax (30 g)
demineralized/rain water (320 g)
a teaspoon of coffee grounds/dried flowers and herbs/clay if you wish

Protection
long-sleeved shirt
long-sleeved gloves
face mask
chemist`s glasses

Tools
1 big pot
1 small pot to fit in the bigger one
1 bowl
1 spoon
1 whisk
2 glass measuring cups (around 1 liter)
1 long-handle spoon
1 hand blender
1 small scale (preferably a digital one)
1 cutting board
1 knife
1 spatula
2 thermometers
some silicone molds and trays

How to make it:

Choose materials that are going to be used only for soap preparing. Make sure all your pots and cutlery are made of stainless steel/ceramics/glass and do not contain any aluminum.

Start with desinfecting every tool, the surface of the table you are going to prepare your soap on and your hands with alcohol.

Put your long-sleeved shirt, long-sleeved gloves, face mask and chemist`s glasses on.

Weight the water (it should be exactly 320 g., which is 32% of the total amount of oil. It's the amount needed for every soap solution).

. Weight the soda. Attention! It shouldn`t touch the skin or the eyes! It is really caustic.

. Put the soda in the water, (and never the contrary) carefully stirring until it dissolves completely. The liquid should reach temperature between 70 and 90 degrees Celsius.

. Leave the liquid aside to cool down and at the mean time use the spoon to fill the bowl with coconut oil and the knife and wooden board to cut some beeswax.

. Weight the coconut oil alongside with the beeswax.

. Weight the olive oil in one of the measuring glasses.

. Fill the bigger pot (1/3 of it) with water and put it on the turned on heating plate.

. Put the solid ingredients in the smaller pot and place it in the bigger one.

Boil the content of the smaller pot on a lower degree for 5 minutes and add the olive oil.

. Wait until the oils melt and mix completely, reaching the degrees of the soda solution (between 38 and 48 degrees Celsius). Use the two thermometers to compare the grads of the two liquids.

. Gently pour the soda solution into the oil mixture.

. Start stirring with the whisk, drawing 8-s. After 5 minutes turn on the hand blender and spin it close to the bottom of the pot.

. The soap soup will be ready when the hand blender starts leaving light traces in the mixture. This is the time when you must add the coffee grounds (or dried flowers/clay/essential oils) if you want your soap to be colorful, to smell nice or to be neatly decorated.

. Stir and puree once again until homogenized and pour the soap in the molds/trays.

. Cover the top of the molds with a layer of plastic foil. The foil has to be in contact with the whole surface of the soap.

. Cover the molds with a blanket or a towel to keep them warm.

. After 24 hours, remove the blanket/towel and the foil and taste the soap with the top of your tongue. If it`s sparkling, the soap would be prohibited for usage. If it tastes like a normal soap, leave it in a room temperature (not on direct sunlight, not on a windy or humid place) to dry for a month or until it loses 10% of its weights.

Additional notes:

When you calculate the amount of soda needed, do it accordingly to the amount of oils you are going to use.

Check the indicators of your soap`s quality:
If the soda is too much, it will leave powder-like traces on the top of the soap.
If the olive oil is too much, the soap will be more sticky and fat.
If the coconut oil is too much, the soap will be softer and will start melting soon after using.

If you want to cut the soap, do it right after you removed the covers (before it becomes too hard).

Some links to go further to create your soap and to know about the oils

Lacto-fermentation

In summertime our veggie gardens are lush and abundant, and for most climates this ends when winter settles down. To cherish this bountiful harvest there is a healthy and low energy way to preserve this; lacto-fermentation. Maybe you've heard of it or maybe you didn't, yet it has been around for thousands of years. The aim of this workshop is to give an example on the many possibilities to preserve vegetables.

Materials needed
-sterilized jar (only glass or ceramic)
-big bowl for mixing
-brush for cleaning veggies
-grater
-cutting board and knives
-fermenting stones

Ingredients
-white cabbage
-5 onions
-6 carrots
-leftover kale stems
-leftover carrot leaves
-one red chili pepper
-50 grams sea salt (20-30 grams per liter of product)

Instructions

1. Wash the carrot thoroughly, this way the peel can remain which contains a lot of nutrients. Make sure to cut out the brown spots. The kale stems have a thick outer layer which we peel away, to make the fermentation process easier; how finely your veggies are chopped, how quicker it will fermentate.
2. Remove the outer layers of the cabbage and cut in half. Then make diagonal strips of 1 cm. Dice the onion in cubes and finely chop the carrot leaves. Grate the carrots.
3. Put everything in the big mixing bowl and pour the salt overtop. Mix well and let sit for about 10 minutes. Use only wooden cutlery or your hands, avoid metallic/iron as this will interfere the fermentation process.
4. Pour the mixture in your sterilized jar and press firmly. Make sure you add the liquid that has been released from the veggies.
5. Add the fermenting stones and close the lid, yet leave room for a bit of air to come through. Remember, this fermentation process is very much alive so it needs to breathe.
6. Put the jar in a place you will see it often, to send it your loving thoughts and to remember that it is there. After one week you check how it is going by smelling it. Do not touch it as this will disturb the process. The fermentation will be done in about 2-3 weeks. Then you can transfer it to a jar with an airtight lid.You can keep this in the storage for quite some time. If you start eating from it then store it in a cold place.

Special tips

There are many ways to sterilize, yet important is to avoid heavy chemicals. Hot water and organic soap (for example Aleppo) will be enough. If you have smaller jars you can wash them and put them in the oven on 100 degrees celsius for about 10 minutes.

The final product has loads of health benefits. As our little friends called bacteria already broke down some of the structures, it is easier for us humans to digest. They replenish our intestinal flora. This supports our ability to take in vitamins and minerals.

Given all these benefits, there is a finite amount of how much you can eat it. As the final product will be quite salty, it is something you put on the side of your main dish. A little goes a long way!

Ginger bud recipe

200 ml water
30 g ginger
25 g brown sugar

Mix it all together, shake vigorously. Then put this preparation in a jar with a towel on top, attached with an elastic. Leave it all exposed to sunlight and, during the night, in a warm place (not too warm). Stir 3 times a day with a very clean plastic spoon.

Every day, add 30 g ginger and 25 g brown sugar. Do this every day, until some bubbles appear, a kinf of foam.

This is how you get the ferments for ginger beer, but you can also use them to bring other juices to fermentation.

Ginger beer recipe

For a liter of water you put:

- 50g of Sugar
- 60g of grated fresh ginger
- 5cl of the ginger bud
- 10 cl of lemon juice

Put the ginger, the lemon, the sugar and the water in a pot. Warm it until the sugar is melted. Then put it to coold down. When it's cold had the ginger bud to it. Mix it well with very clean spoon. Let it fermentate again for 2-3 days. Then the bublle (like beer bubble) are here.

* You can decide to keep it like this and put it in bottle. You can keep them in the fridge for two weeks. It will stop the fermentation and don't add bubbles.

* If you keep it out of fridge, the fermentation keep on going and make more bubble, but also some alcool afteer a while!

Choose you taste.

Sourdough Recipe

Introduction:
Sourdough has been used for a very long time. It was the way to make bread before it finally was (mainly) replaced by baker's yeast. Sourdough has benefits, even if it has been replaced in terms of commercial use.

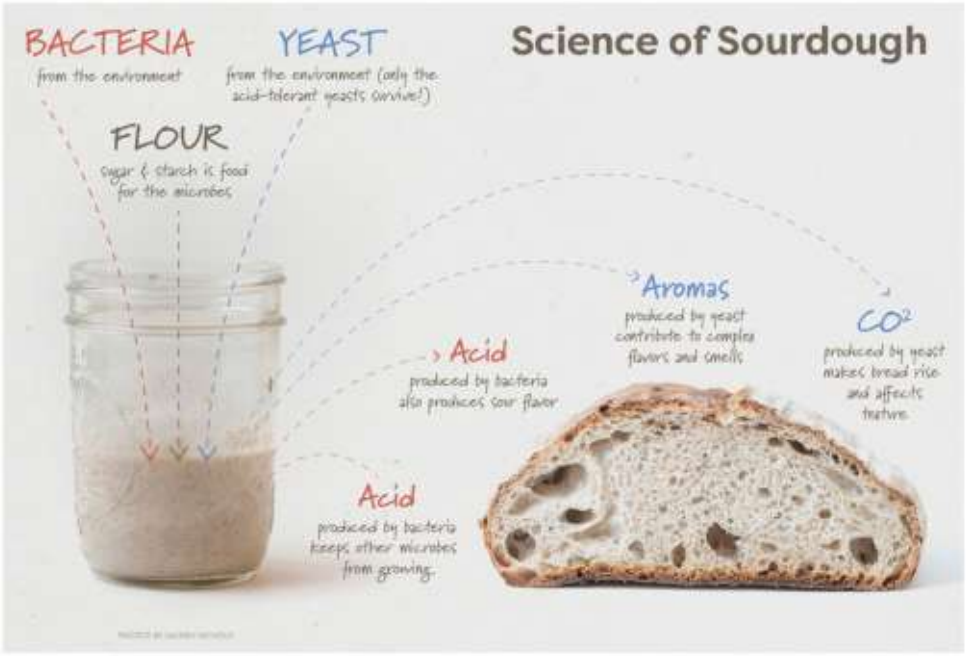
Ingredients
a (glass) jar. Preferably 0,5ltr to 1ltr
jar lit or a piece of cloth/cotton and a rubber band
flour (50 grams to start of)
You can use any flour you want. The results, however, may differ.
water (50ml)
Something to stir the sourdough mix (like a spoon)

First of it is important that the objects/materials used should be cleaned properly. Don't use a used towel for cleaning the materials. Use hot water. Don't leave soap or cleaning compounds as well because this disrupts the development of the sourdough starter.

STEP 1:
Put the flour (50mg) and water (50ml) in the jar and mix it. The substance should be without any lumps or pieces. Make sure it's smooth. The texture should be somewhat like peanut butter or honey. Cover the top of the jar with the piece of cloth and rubber band or a lit. Do not screw it on! Air should be able to come into the jar (but no insects).
Put the jar somewhere without direct sunlight and extreme temperatures
Wait until the next day and watch the proces.

Tips & tricks:
From one a participants of the workshop:

Let pieces of an apple stand in water for a couple of days. Use the apple-infused water to accelerate the sourdough starter.



STEP 2:

Remove half of your mix from the jar and add a new mixture of 50ml water and 50gr of flour. Mix the substance until it is smooth.
Wait until next day and watch the process - just like the day before.

In the meantime:

Watch and smell how the sourdough develops. It should have some bubbles after a while and a mildly acidic/bitter smell, comparable to beer. You should be able to differentiate between the sourdough going bad or a proper developing starter.

Know that:

* Less refined grains (wholegrains) slow the process down. This is not a bad thing! The process will just take longer.
* Try to use flour that is not treated with pesticides as this will halt the development completely/ will slow it down.
* Adjust the dosage of the mixture that is added when possible:

Add more flour relative to your mix when there is water on top of the mixture in the jar.
If it's to stiff/ hard to stir: Use more water.
Repeat the aforementioned steps for at least 7 days. Most sourdough starters need 7 to 10 days in order to be ready so it can be used for recipes.

STEP 3:

The sourdough starter is ready to use after more or less than a week! It can be kept for a very long time in case you replenish the mixture. The part you remove everyday can be used for delicious pancakes. There is no need to use a binder in the recipe as the sourdough will be strong and elastic in texture.

Tips & tricks:

Put the sourdough starter in a refrigerator to slow down the process. This allows you to keep it longer. Make sure to add some mixture (flour and water) and let it warm up for a few hours before use.
Of course you can use additional ingredients with the sourdough starter when you use it in recipes like salt and sugar.
Don't spill the mixture on any precious belongings as it is very hard to remove.

To do you bread

Healthy Indian Dahl Recipe

Ingredients for 16 people

700 g red lentils
5 beetroots
4 or 5 tomatoes
3 onions
3 tbsp ginger
2 cups coconut milk
2 tbsp coriander
2 tbsp curry
1 tbsp cumin
1/3 chilli
700 g rice
100 g almonds
Some mint
2 lemons
Olive oil

Procedure

Cut the beetroot, onion and tomatoes in 1cm dices.
Put some olive oil in a pot and add the onion and ginger. Cook for 5 min.
Add the beetroot and let it cook for 10-15 min.
Add the red lentils and stir for 5-10 min before adding any water, so they absorb all the taste.
Add water until nearly covered and cook for 10-15 min without stirring a lot, because you don't wan't to break the lentils.
10 min before the lentils are done (more or less), add the coconut milk and cook for 10 min. You don't want to add the coconut milk in the beginning because the lentils would take all the flavour of the coconut milk.
When the lentils are nearly done, add the tomato dices and cook for 5 more min.
Add the coriander and let stand for a few minutes before serving.

Rice

Dhal should be served with some rice, therefore we should cook some with the following technique:
Rince the rice until the water comes out clean.
Put it in a pot and at water until covered and one or two fingers more (depending on the pot).
Put it on the fire on high heat until it starts boiling.
Lower the fire to its minimum and cook for 8 min.
After these 8 min turn off the fire and let it rest for 8 min more.
Meanwhile put some crushed almonds on a pan and roast them a bit.
Finally add some mint, the roasted almonds, the juice of 2 lemons and their grated skin. Stir it and it's ready to serve.



Indian Samosa Recipe

Ingredients for 16 people

1 pumpkin
3 onions
¼ chilli
1 Eggplant
200g grated coconut
500 g pineapple
3 tbsp ginger
6/7 cloves or 1 tsp clove powder
1 or 2 tbsp curcuma
Dough
5 tbsp olive oil
1 kg flour
Sesame seeds
Water
Salt
Tomato sauce
1 kg fresh tomato sauce
1tbsp cinamom
1tbsp cumin
2 tbsp fresh coriander
½ tbsp sugar
2 or 3 tbsp olive oil
¼ chilli

Procedure

Cut the pumpkin and eggplant in 1 or 2cm dices. Chop the ginger really thin.
Heat some olive oil in a pan and add the onion first and later the ginger.
Crush the clove and add it to the pan.
Add a bit of salt and zater to prevent the ingridients from burning and let it cook fore 10 min.
Heat a pan with the grated coconut and cook unitl it gets a browny color.
Add the eggplant in the big pan with the pumpkin and let it cook until done.
Turn down the fire, put it in a bowl and let it cool down.
Cut the pineapple in 1 cm dices and add them to the bowl with the curcuma. Mix everything well and let it rest.

Dough

Put the flour in a bowl (should be full grain and normal flour mixed if you can) and add some salt, mix these dry ingredients first.
Add the oil and water until you get a homogeneous mix.
Should had a dry and floury texture, similar to pizza dough.
Clean a surface, add a bit of flour on top of it to prevent the dough from sticking to the table.
Cut 4 or 5 cm balls of dough and roll them in your hand to get a flat homogeneous surface. Put these dough balls in a dish with sesame seeds, but just on one side of the dough.
Roll these balls with a dough roller gently and create round shapes of 10-15 cm.
Put more or less 2 tbsp of the pumpkin mix inside the dough circles. There have to be a few centimeters of dough so that we can work the edges comfortably. Making curled edges is achieved by folding diagonally on the edge over the tip of your finger, folding one over the other until reaching the tip. Make a little twist and pressure to finish closing to ensure that all of the delicious filling stays firmly inside the little crust pocket.
Deep fry the samosas and they're ready to enjoy!

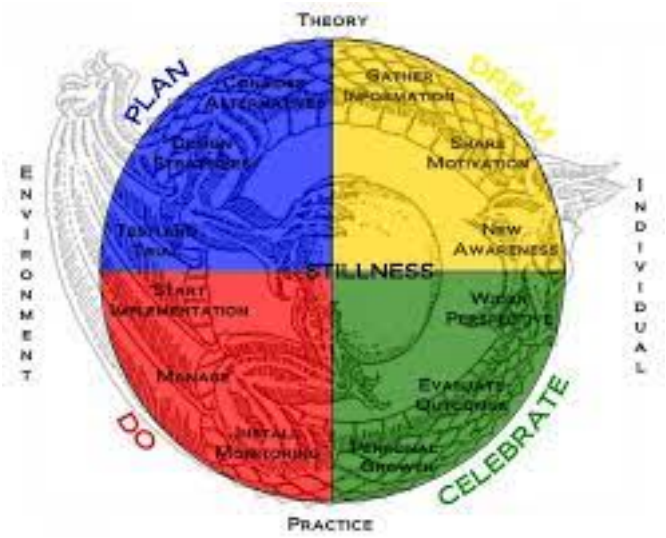
Tomato sauce

Add chilli in a pan with olive oil and fry it a bit to extract all the flavour.
Add the tomato sauce, cinamom, cumin and sugar. Mix properly and cook for 5 or 10 min.
Add the fresh coriander and cook until properly done.

Dragon Dreaming Technic

Steps to be made:

Share the dream. If somebody has the desire of turning his/her individual dream into a collective one, s/he gathers the others around in a circle and s/he describes it to them. It is important that s/he provides the others with a clear vision of the dream, a direction to head the people in and a time frame in which s/he expect things to happen.
Share the needs. When the dream is already described, everybody from the circle is invited to share his/her opinion and the things s/he could add to it – the group is weaving the dream together.
Share the path. Start walking throw (and working on) the different phases of making a dream come true.



The four phases of Dragon Dreaming:

1. Dreaming
- the dream appears in the head of a person OR is created by him;
- a good step of making a dream reveal itself is assembling a vision board.

The different stages of dreaming are: Celebration - Awareness - Motivation - Information - Revision

2. Planning
- in order for the dream to become a reality, the visions of the people should be combined and adapted to one another.

The different stages of planning are: Considering Alternatives - Designing Strategy - Testing/prototyping - Reconsideration

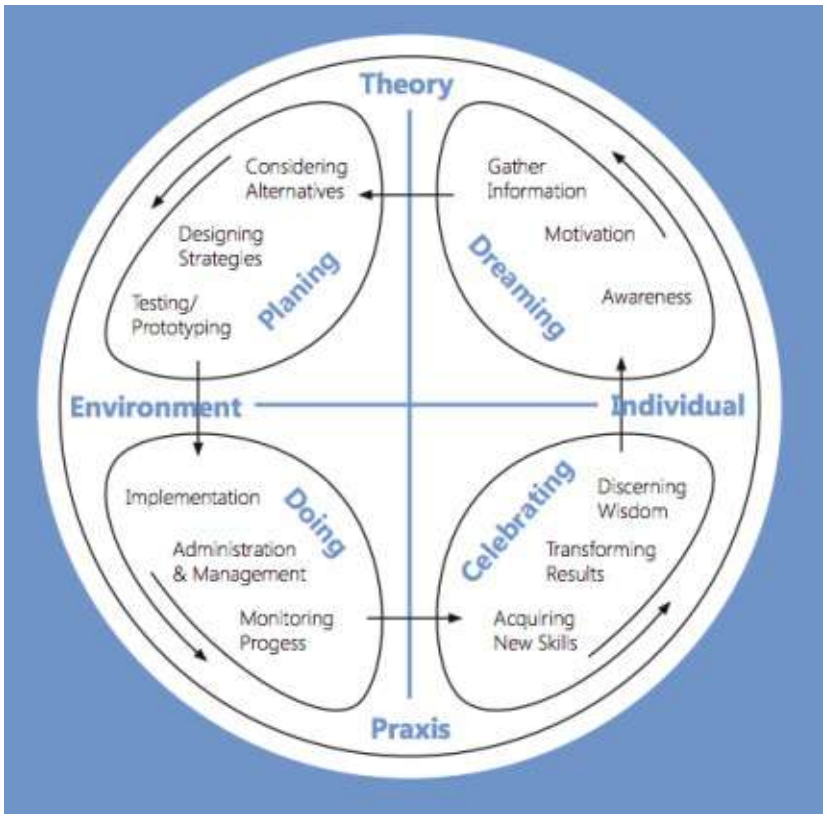
3. Implementing
The different stages of implementing are: Doing - Administration & Management - Monitoring the Progress - Reevaluation

4. Celebrating
- you should learn how to celebrate in order to realize what you achieved and recover after the hard work, so don`t miss that part;
- by celebration the Dragon Dreamers mean reflection and evaluation, complimenting and nurturing the others (honoring the beauty of the world) and/or resting;
- the celebration part actually occurs on every stage of the process; it is important, though, to have it as a separate phase.

The different stages of celebrating are: Acquiring Skills - Transformative Results - Reflection - Awareness.

Additional notes:

There is an item called pinakari (which could be anything producing sound), which is used from the person who lost his/her focus for recentering and returning in the present moment. If you want to use the pinakari, you should follow these steps:
- take the pinakari and become quiet;
- close your eyes and place your feet on the ground;
- breathe and clear your mind;
- when ready, open your eyes.
Keep in mind, that the one who requested the pinakari is not the only one obtaining the ritual – everybody has to take part in it at the same time.



How to prepare a workshop?

Define your aim

First of all, when you're planning a workshop, you should have a goal. This objective will lead your actions and you will shape everything around it.
You should know what is you target group and its specificities.
Know what are the learning outcomes that you would like the youth to get.
Have a common language.

Safety rules

* know the emergency numbers.
* First aid kit
* European insurance card.
* Know where the nearest hospital, clinic and pharmacy are.
* Have an emergency contact number from each participant.
* Inform participants on the dangers of the place.
* Set common rules with the group.

Entertainment

<u>Create an atmosphere:</u>
Choose music that fits with the topic, attract the target group, create some dynamics.

<u>Energizers:</u>
They are used as ice breakers, easy to understand, showing a local habit.

<u>Motivation:</u>
Present the workshop topic in a proper way, with interaction, easy going, openness, listen to people, take time to have discussions with them, flexibility, sense of improvisation, little gifts.

<u>Food & drinks:</u>
Can be nice to offer to the participants while having a break, it should be in harmony with the topic.

Human part

How to work as a team leader?
1. Meeting to: set the common rules, think about the tasks and list them from the most important to the less important. Divide the tasks between different people (if there are volunteers, they must have someone to accompany them).
2. Everyone works on their own tasks
3. Meeting
4. Workshop
5. Evaluation (can be done with the youth as well) and find ways of improvement.

Logistic

* Planning: have a timetable, prepare your activity, have a B plan.
* Money: you should plan how much money you need and where you will find it (from the participants, a grant, donation etc.)
* Resources: transport, people, material, place of the venue.

Advertise-ment

Logo of the project, media plan (internet, TV, radio, newspapers, social networks), social advertisement, merchandizing (clothes, lighters, T-shirts), photos, posters, videos, informations about your activities.
Write informations about the project.

Solafrika thanks

All the participants

Our local partners

Cheers to our local partners,

Sully from Yab Chouchou farm,
Graziela and Camille from Peyort fruitery,
L'oasis de Fabas,
Johan, Susanna and Elodie from "La sauvage" association ,
Zero waste association

Our European partners

Erasmus+

The Erasmus+ program and the French National Agency

CID - Macedonia

ALTER EGO - Greece

EQUIPO MANDRAGORA - Spain

YOUTH FOR MOBILITY - Netherland

SFERA SERBIA - Serbia

FUTUR WORLD - Bulgaria

IBG - Germany

SOLAFRIKA - France

Cheers to Susanna, Ben, Carole, Laurent and Maëva. Organisators, cook, trainers and facilitators from Solafrika.