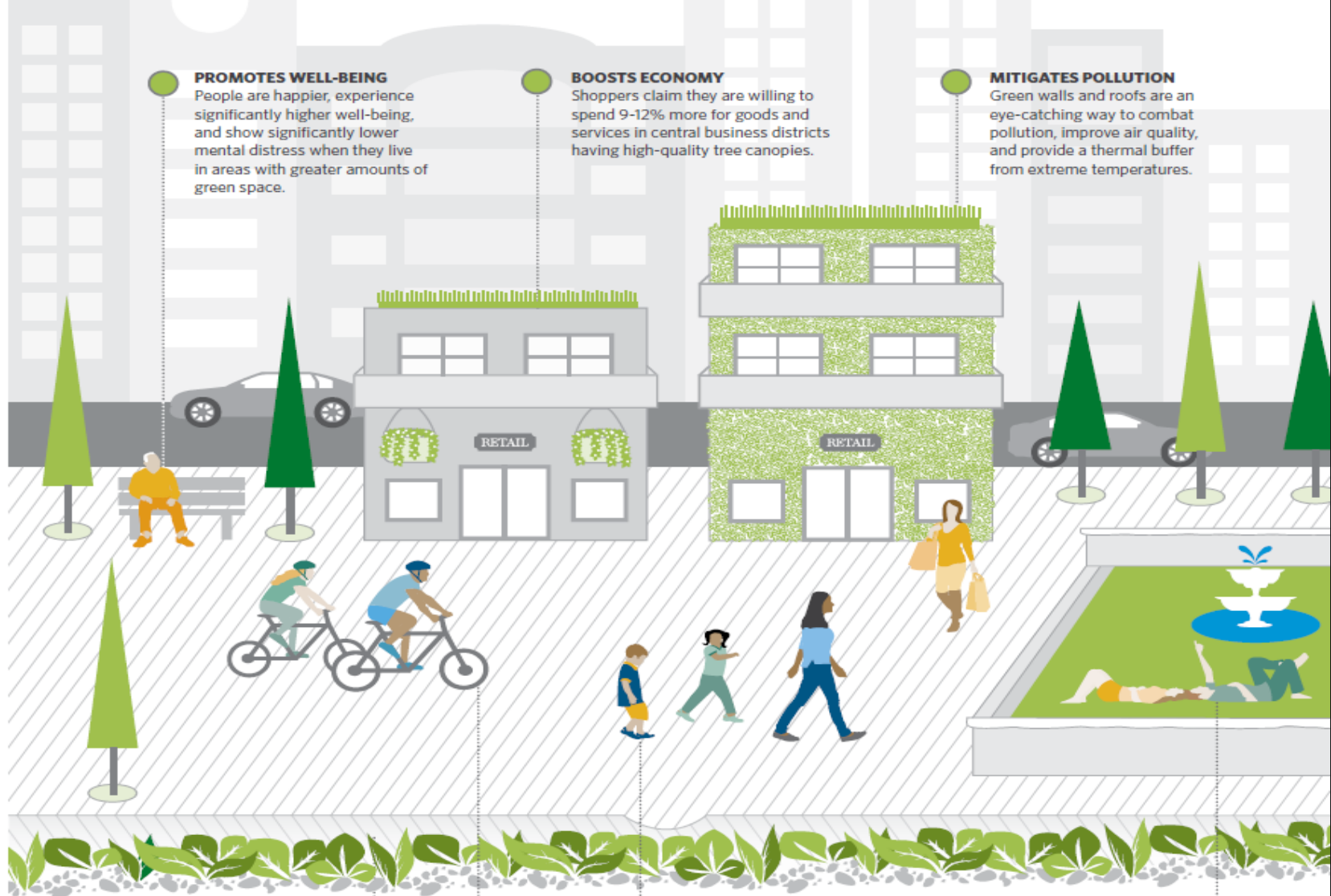




NATURAL ACTIVITY IN URBAN AREAS

BENEFITS OF NATURAL ACTIVITIES IN URBAN AREAS ...



PROMOTES WELL-BEING
People are happier, experience significantly higher well-being, and show significantly lower mental distress when they live in areas with greater amounts of green space.

BOOSTS ECONOMY
Shoppers claim they are willing to spend 9-12% more for goods and services in central business districts having high-quality tree canopies.

MITIGATES POLLUTION
Green walls and roofs are an eye-catching way to combat pollution, improve air quality, and provide a thermal buffer from extreme temperatures.

REDUCES FLOODING BY MANAGING STORMWATER AND DECREASES POLLUTION
Using engineered solutions like bioswales and raingardens solves problems while contributing to more green space.

HELPS CHILDREN LEARN
Children with ADHD concentrate better following a 20-minute walk in an urban park than they do after equivalent walks in other urban settings.

INSPIRES PHYSICAL ACTIVITY
Residents living in areas with more green space are more than three times as likely to be physically active.

IMPROVES NEIGHBORHOOD SAFETY
Residents with higher amounts of nearby nature report fewer violent and minor crimes, and fewer incivilities.

WHAT MIGHT BE DONE AND HOW FOR...

- HUMAN
- BIODIVERSITY
- ENERGY
- NUTRITION AND FOODS
- LANDUSE/SOIL
- WATER
- AIR
- TRANSPORTATION
- CONSTRUCTION/BUILDINGS/ GREEN INFRASTRUCTURES
- TRAINING ACTIVITIES



NATURAL ACTIVITIES
IN URBAN AREAS

HUMAN

Main Activities

- Awareness raising in nature, ecosystems, self-sufficiency, species diversity, climate change, etc.
- Strengthening of social organizations (associations, clubs, unions etc. voluntary organizations)
- Education studies
- Creation of various activities (production, distribution, organization etc.)
- Increasing labor force participation

Important Criteria

- Nature rights
- Human rights
- Compatibility
- Sustainability
- Climate change
- Applicability
- Motivationalism
- Reassurance
- Productivity

BIODIVERSITY

Main Activities

- Determination of biodiversity in the city and its surroundings (wild plant and animal species)
- Production of plant species in the city (at home, on the balcony, in the garden, on the farm)
- Production of animal species in the city
- Preservation of production of seeds, crops etc.
- Reorganization and rehabilitation of local markets
- Marketing and distribution of produced

Important Criteria

- Protectionism (live rights)
- Naturalness and integrity
- Climate change
- Sustainability
- Applicability
- Biodiversity
- Productivity

ENERGY

Main Activities

- Areas where solar energy will be expanded and used
- Areas where wind energy will be expanded and used
- Repair and improvement of the current energy system (electricity generation and distribution systems)
- Encouraging new searches in energy

Important Criteria

- Ecological (clean)
- Sustainable
- Renewable
- Cheap
- Easy to obtain
- Hazardous waste free (safe)

NUTRITION AND FOODS

Main Activities

- Increasing organic and ecological production
- Increasing the quantity and quality of production areas and facilities
- Reducing ecological and carbon footprint
- Protecting the manufacturer's rights
- To provide energy support for food production
- Supporting individual productions and increasing motivation
- Changes to increase food production in the city

Important Criteria

- Sensitive to living rights
- Ecological
- Climate change
- Healthy
- Producible
- Pustainable
- Equitable

LAND USE / SOIL

Main Activities

- Increasing local plant and animal growing areas in and around the city
- Increasing biodiversity in natural areas
- Increasing the amount of parks and gardens
- Space acquisition and naturalization projects
- Space acquisition with vertical urbanization

Important Criteria

- Naturalness
- Wholeness
- Climate change
- Sustainability
- Soil ethics
- Farmer rights
- Food networks and biodiversity
- Fitness for health

WATER

Main Activities

- Protection of naturalness and integrity of water resources and watersheds
- Water management for conservation of biodiversity
- Arrangements for storing and using rainwater in buildings and land
- Less and crop-based water use techniques in agriculture
- Water use systems suitable for balconies, terraces and vertical gardening in buildings (commissioning of waste water)

Important Criteria

- Naturalness
- Integrity (basin approach)
- Climate change
- Sustainability
- Recycling
- Saving
- Food networks and biodiversity
- Water rights

AIR

Main Activities

- Design and applications for increasing air quality
- Ecological and Renewable Energy concept
- Establishment of self-sufficient systems as energy
- Commissioning clean fuels
- Increasing-regulating vivid green tap and carbon-attracting areas
- Increasing air quality in residences and all kinds of buildings

Important Criteria

- Air quality
- Climate change
- Sustainability
- Wholeness
- Energy recovery
- Compliance with ecosystems
- Price suitability

TRANSPORTATION

Main Activities

- Widespread use and cheapening of clean fuel
- Bicycle paths and popularization
- Arrangement of walking paths
- Increasing and expanding the quality of public transportation
- Traffic flow and density suitable for the ecological city
- Change and renewal of ecological quality of road materials (materials that do not absorb temperature or vice versa)

Important Criteria

- Reducing emissions
- Ecological
Compatibility
- Sustainability
- Applicability
- Cheapness
- Facilitation

CONSTRUCTION

Main Activities

- Design of light, water, energy, material and settlement to increase ecological production
- Reorganization of old buildings and their surroundings
- Design and construction of new buildings and their surroundings
- Some buildings are designed and organized for animal production
- Reorganization and rehabilitation of local markets
- Marketing and distribution of produced

Important Criteria

- Ecological compatibility
- Healthiness
- Sustainability
- Applicability
- Functionality
- Durability
- Ease
- Reasonable price

TRAINING ACTIVITIES

Main Activities

- Creation of the educative structure
- Creating training groups
- Creation of educational spaces and environments
- Creation and preparation of educational material
- Creating training topics
- Workshops and applications
- Field studies
- Groups to organize healthy life in the city

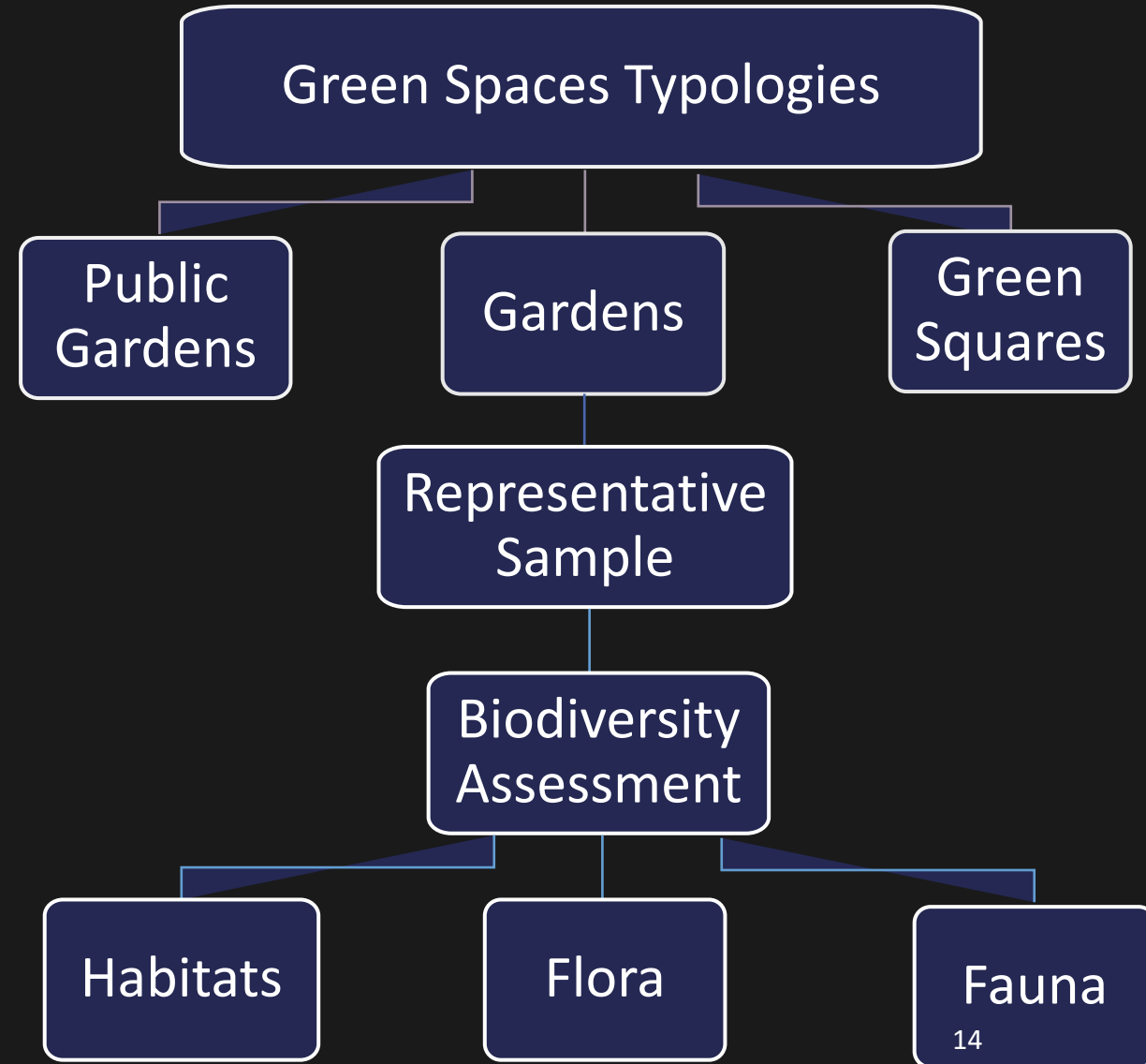
Important Criteria

- Live supervisor rights
- Egalitarian and libertarian
- Compatibilizer
- Creative
- Applicable
- Functional
- Communication facilitator
- Motivating

RECOGNITION OF CITY FLORA AND FAUNA RICHNESS



BIODIVERSITY IN THE CITY



BIODIVERSITY IN THE CITY

Biodiversity – the variety of life on Earth – makes our planet habitable and beautiful. Many of us look to the natural environment for pleasure, inspiration or recreation. We also depend on it for food, energy, raw materials, air and water – the elements that make life as we know it possible and drive our economies.

- https://ec.europa.eu/environment/nature/info/pubs/docs/brochures/biodiversity_tips/en.pdf
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THE CITY, A PLACE WHERE MANY ANIMAL AND PLANT SPECIES LIVE

A city is an environment where a large human population is concentrated and which organizes its space according to needs and activities. The ecological characteristics of cities are quite particular due to the concentration of buildings of all kinds and the importance of human activities. In reality, these characteristics may vary according to the density of human populations, the geographical location and the type of activity. Nevertheless, the human presence is still more significant than in rural areas.



WHY PRESERVE BIODIVERSITY IN THE CITY?

Through the services they provide, urban plants help to improve the quality of air, water and soil. Trees in particular absorb significant amounts of pollutants. They play a significant role in the carbon cycle and have a significant impact on neighbourhood temperatures, especially in the event of severe heat waves. Indeed, the water taken by the roots of the trees and circulating (the sap) to the leaves evaporates thanks to the stomata. This conversion of liquid water into water vapour (evapotranspiration), which uses large amounts of solar energy, has a particularly appreciable local cooling effect during the summer months.



WHAT SPECIES IN THE CITY?-1

The major taxonomic groups are almost all represented in the city. As in many other terrestrial ecosystems, aquatic species suffer most from developments that are often at the expense of wetlands. For example, amphibians are often at high risk in urban areas. Otherwise, plants, herbivores or phytophages, carnivores may be found in cities. Apart from trees that have a special status, urban animal and plant organisms are of modest size.



WHAT SPECIES IN THE CITY?-2

On the wildlife side, the most visible are birds. House sparrows (*Passer domesticus*), blue tit (*Cyanistes caeruleus*), blackbird (True thrushes) and black swift (*Cypseloides niger*) are among the most common species. In the urban environment, adapted birds find nesting places and abundant feeding resources, so the abundances observed can be very high. The house sparrow remains common in the city. In winter, the city loses some migratory species but also gains some non-breeding species such as alder tarrin, which come to seek food and heat.



WHAT SPECIES IN THE CITY?-3

The last references to large mammals, carnivores or herbivores, wolves, deer, etc. date back several centuries, even if wild boars are increasingly reported in some outlying districts. Hedgehogs, moles, martens, squirrels, rats and mice, rabbits or foxes and some species of bats are about the only mammals found in urban centers. Hedgehogs in particular are in sharp decline due to the increasing scarcity of insect or gastropod species on which they feed, killed by insecticides or slug pellets. Fencing between gardens in increasingly large urban areas that prevent genetic exchanges between populations, as well as deadly encounters with vehicles on the road, make them a highly threatened species.



WHAT SPECIES IN THE CITY?-4

The warm urban environment and the high availability of food resources also attract many small invertebrates. In general, the city appears to be a refuge for generalist insects, adapted to varying living conditions in highly disturbed environments. Butterflies often desert city centers but can be found in large numbers in gardens when they have a few unmanaged spaces and when the floral resource is quite abundant. Other pollinating species are also found in cities, especially solitary bees, which are responsible for most of the pollination of entomophilic plants in cities or are not too competitive with honeybees from the many hives placed in certain areas.

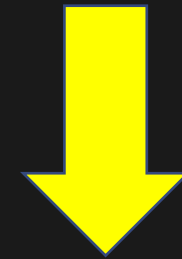


SOME USEFUL LINKS TO RECOGNIZE CITY FLORA AND FAUNA

- <http://learningintheleaves.co.uk/flora-and-fauna-identification>
- <https://ypte.org.uk/factsheets/birds-in-the-city/birds-in-the-city>
- <https://www.nhm.ac.uk/discover/city-birds-and-how-to-watch-them.html>
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- <http://www.mushroom.world/mushrooms/list>
- <http://www.bugcollectors.com/where-to-find-insects>
- <https://www.inaturalist.org/projects/never-home-alone-the-wild-life-of-homes>
- <https://butterfly-conservation.org/our-work/conservation-projects/england/big-city-butterflies>

CITY GARDENING

The first action for realizing ecological life in cities



Permaculture



WHAT IS PERMACULTURE?

Permaculture is a set of design principles centered on whole systems thinking, simulating, or directly utilizing the patterns and resilient features observed in natural ecosystems. It enables us to look at the world from a different window with a holistic approach containing different disciplines.

IMPLEMENTATION PLACES OF PERMACULTURE DESIGNS

- In cities, towns, villages
- In sites, hospitals, factories, facilities
- In school, institutions and companies
- In homes, apartments, sites
- On farms, in agricultural areas



PERMACULTURE DESIGN AREAS

Permaculture Design Areas in Cities

- Balcony and gardens
- Flat roofs
- Parks and refuges

Permaculture Design Areas in the Countryside

- Rehabilitation of damaged areas
- Water capture and storage, feeding groundwater resources
- Animal shelters and habitats, protection of endemic species
- Creating a food forest and food produced
- Combating erosion and preventing erosion





PERMACULTURE REGIONS - ZONES

- REGION 0: Living space, home.
- REGION 1: Places visited every day, usually a maximum of 10 m of the house.
- REGION 2: It is usually visited every 2 days. Animals (Chicken and goat), production gardens, pond, fruit trees, compost area.
- REGION 3: It is a region visited once a week. It is the spreading and animal feed area of plants and animals such as garlic, potatoes that require less care.
- REGION 4: There is a tree field or woodland, irrigation pond, cattle and horses, a grain field.
- REGION 5: It is a wild area and this area is the protected area.

SEGMENT AND ZONES IN PERMACULTURE

- Rain regime
- Temperature
- Neighbors
- History
- View
- Noise
- Slope
- Guests
- Animals
- Infrastructure
- Disasters (earthquake, flood, storm ..)
- Frost
- Transportation (roads)
- Soil
- Pollution

Just-harvested comfrey leaves go in top of an 8-inch-diameter PVC pipe.

Comfrey leaves rot within the pipe.



A bucket catches the concentrated liquid from the rotting leaves, to be used as fertilizer in the garden.

CREATING A FOOD FOREST-1

Fruiting Bottom Vegetation

- Gooseberry produces a sour fruit and due to the spikes, animals cannot eat their leaves much.
- The various types of gooseberry selected yield larger, larger quantities and sweeter fruits. Black and red currants can be used instead of gooseberry.
- Many types of currant are known to keep whiteflies away. Snowball and blueberry plants can also be included in this list.

Ground Coverers

- Natural groundcovers can be used to control the threadworms in the soil, or it can be ensured that latin flowers and marigold flowers perform this function.
- It is also possible to benefit from strawberries and mushrooms. Comfrey grass, broad beans and saryonca, cut between early spring and mid-summer, provide trace minerals, mulch and nitrogen.



CREATING A FOOD FOREST-2

Soil and Land Preparation

- Soil preparation and grafting are indispensable for productive food forests.
- One of the suggestions for land preparation is to introduce large amounts of organic matter input into the food forest.

Farming

- Animals are indispensable for all kinds of forest systems, especially for human-made food forests with abundant fruit.

Plants Suitable for Nutrition and Reproduction of Insects

- They resemble parsley (dill, anise, carrots left for seeding), nettle and other small-flowered plants.
- These plants and rosaceae provide a natural habitat for wasps that control looting insects.

WATER MANAGEMENT AND USE OF RAINWATER IN PERMACULTURE-1

- In permaculture, generally the first step of land practices is water management in the land.
- It is ensured that the water comes out of the land cleanly.
- One of the cultures that people lose quickly is rainwater cisterns.
- Rainwater recovery is the cheapest and easiest to collect fresh water source.



<https://refinedexteriors.com/take-advantage-of-the-rain-using-your-gutters-for-rainwater-collection/>

WATER MANAGEMENT AND USE OF RAINWATER IN PERMACULTURE-2



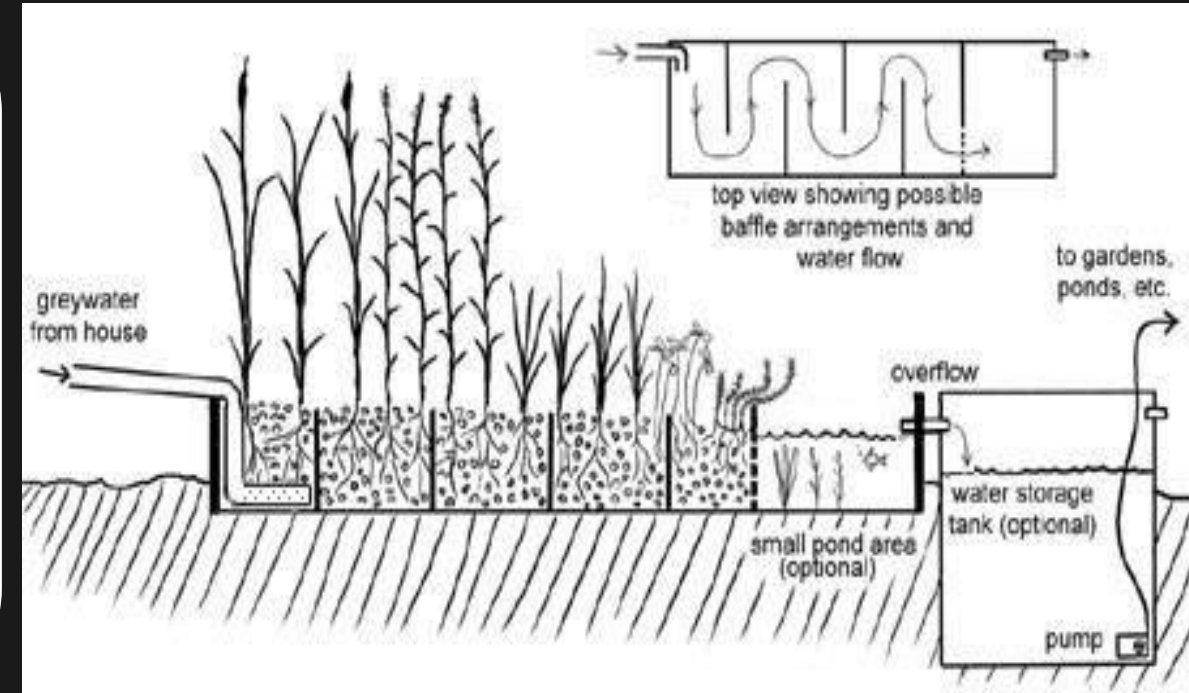
Water Retention

- In order to eliminate water shortage in the field, it is a convenient method to make a rainwater collection pool.
- A scoop is kept.
- The area where the pool can be opened is determined. (which area is better).
- The slope of the land is a serious advantage for us.
- It should be determined how much water flow is in the places where snow waters melting and observing in winter.
- The location of the pool should be higher than the areas to be irrigated, not too far away, in a place where the slope ends or decreases.



GREY WATER-1

- Gray water contains one-quarter of the total suspended solids in domestic wastewater and more than two-thirds of total phosphorus.
- Dish and laundry detergents are the main source of phosphorus in gray water.
- The water from the kitchen sink containing food pieces and the water from the laundry are much more polluted than the gray water from the shower and the sink.

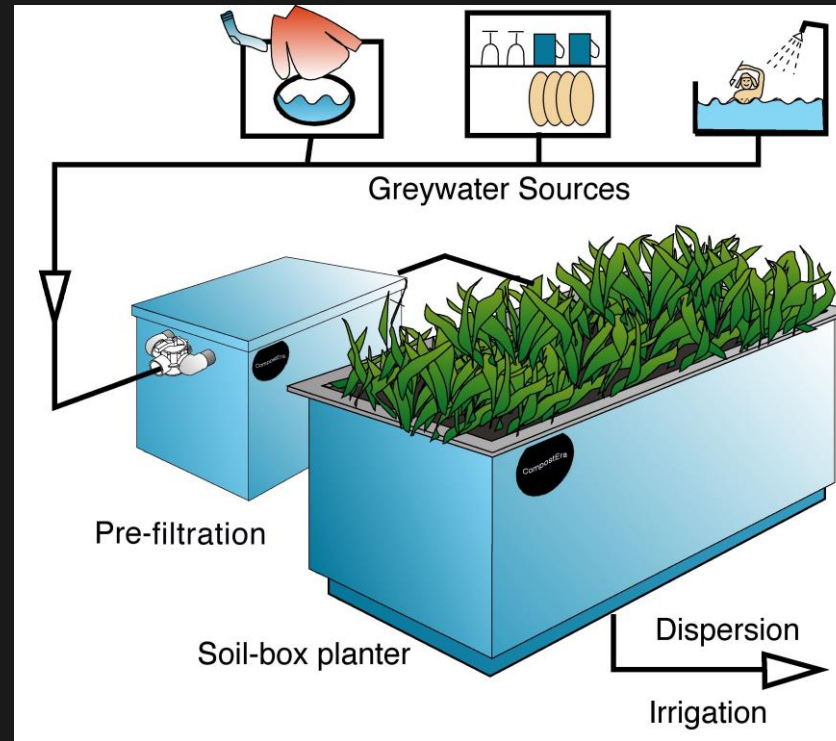


- Gray water; It can be defined as wastewater generated in showers, bathrooms, sinks and kitchen sinks in pretreatment.
- Depending on the state of chemical pollution, evaluation is made in the form of less polluted gray water and very polluted gray water.

GREY WATER-2

Very Dirty Gray Waters

- Indicates waste water from the kitchen and washing machine.
- Gray water is the largest percentage of domestic wastewater by volume, with a share of 75%.



Less Dirty Gray Water

- Lightly soiled gray waters mean waste water from showers, bathrooms and sinks.
- The pollution rate is quite low.

HEALING HERBS SPIRAL

- The logic of the herb spiral is to grow many herbs planted in a narrow space together as much as possible.
- Actually, the meaning of the spiral; to design different ecological conditions in a small area, normally not possible.
- Moreover, small area means that both irrigation and harvesting are easier.
- Statically medicinal weed spirals are self-supporting structures when normally built on flat ground.

- The thickness of the material to be used in the wall of the spiral should also be considered at the beginning of the work and the final diameter should not exceed 1.5-2 meters.
- This form provides different possibilities in terms of light receiving angle, wind exposure and drainage, and the plants can be placed according to their needs.
- As the material that forms the walls; even bricks, stones, tree stumps and bottles to be stuck inverted into the raised soil pile can be used.

SAFETY INSTRUCTIONS

However, the importance of knowing flora and fauna needs to be coupled with first aid knowledge and an understanding of what to do in an emergency. Below you will find advice and guidance on what to do in the worst should happen:



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