



CLEARINGHOUSE
中欧城市森林应对方案



City of trees

On the importance of urban trees, forest and why
we should care for them



Table of contents

1. Introduction	5
1.1 Importance of trees and urban forests in the city.....	6
1.2 Trees as guardians of your health	8
1.3 Importance of green school yards	10
2. Our connection to nature	11
3. Coping with worries about the future	13
4. How does this package work?	15



Hi!

Ever wonder why
you should learn about
urban trees and forests?



1. Introduction

Majority of the people in the world live in cities, those vibrant hubs of culture, education and industry. Due to climate change, however, our summers continue to reach record temperatures which makes the cities uncomfortably hot. The paved surfaces (asphalt covered streets, buildings and parking lots covered in concrete) and high population density (measure of how many people live on a given area) make the situation worse as the paved surfaces store the heat, and further increase the air temperature.

With those paved surfaces, there is a bigger risk of flooding during heavy rains, especially when green surfaces (parks and lawns, trees, plantings and bushes) are lacking. The green and blue surfaces (lakes, ponds, rivers and streams) would allow the water to infiltrate into the ground, or in the case of rivers and streams, be carried onto larger waterbodies like the lakes or oceans. Not only would the natural surfaces mitigate the extreme weather conditions, it has been proven that people feel better in cities where there are parks, trees and greenery and have less mental health problems, such as depression and anxiety.



In fact, maybe you noticed at the very beginning of the pandemic, what a difference it made when you could spend some time outdoors. As all other activities were brought to a halt, in many countries it was still allowed to wander around in the parks and urban forests in search for room for physical exercise, a moment of peace and quiet of your own, or simply a change of scenery from inside the four walls. Outside was also the safest place to meet with friends as social distancing was easier to follow there and because there was more fresh oxygen.

Those of us who reside in cities tend to have moved far from the world's forests and from nature at large. With this we refer to living many kilometers away from forests, but also to the way we see ourselves as separate from nature. Many of us see nature such as birds, worms, trees, plants, rain and wind, separate from us humans. When we think of ourselves separate from nature, we easily forget how our activities can hurt the environment and the nature we live in. Yes, even in city we are surrounded by nature!

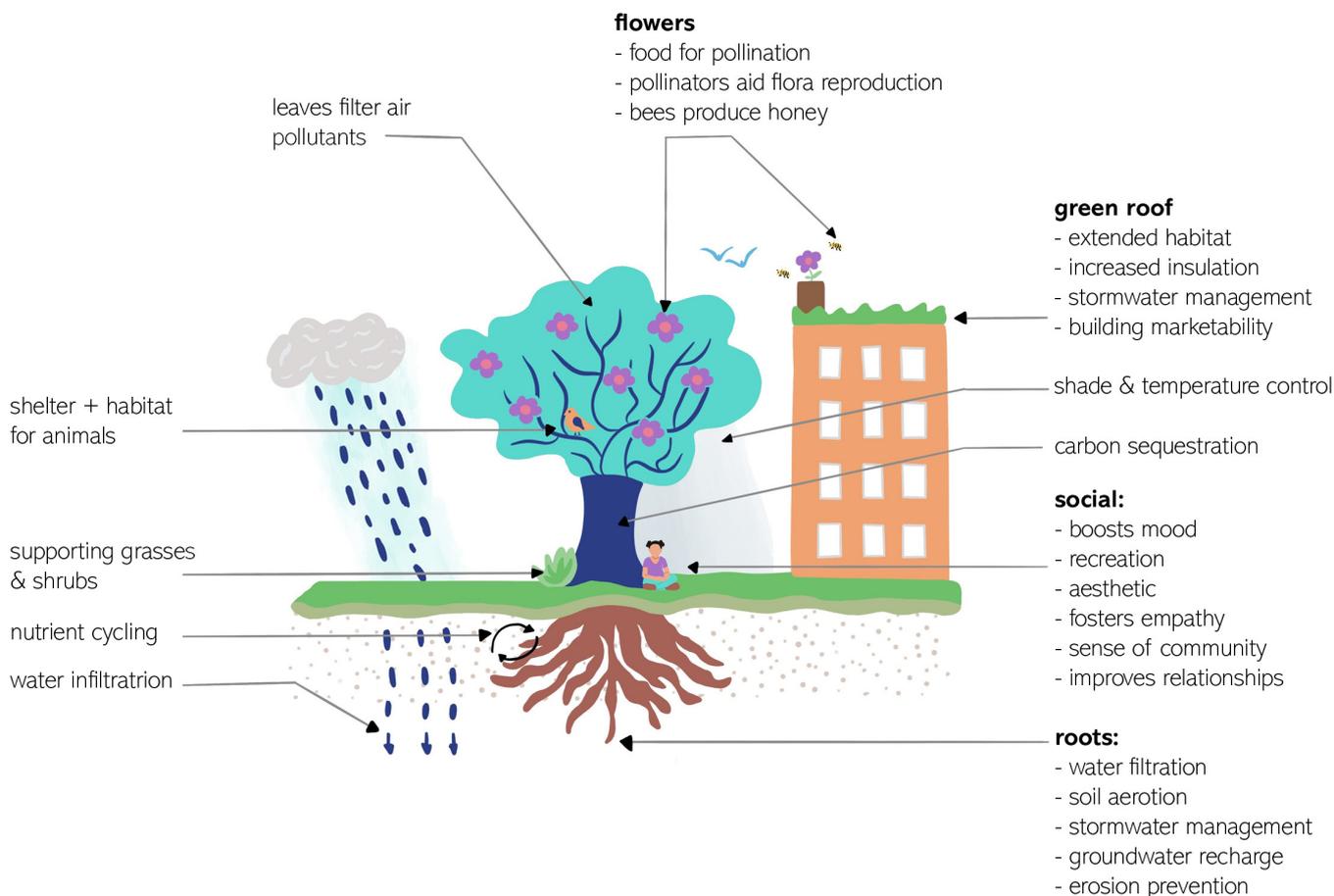
We also do not often realize that we depend on nature, for example the pollinating bees for many crops we enjoy, the rivers and oceans that provide us with fish, the chlorophyll in plants and trees that provide us oxygen, and of course, all the green and blue spaces for making our living environments livable to begin with.

This educational package wants to remind you of the importance of urban trees and forests and nature at large. It aims to support you in bringing you closer to the nature surrounding you; understanding nature's importance for your wellbeing; and developing the skills that are needed in acting responsibly for local and global nature's sake.

1.1 Importance of trees and urban forests in the city

Urban trees and forests provide the city residents an endless list of benefits. Next to ecosystem services listed in the graph below, the urban forest is a link to nature, which is our source of health and wellbeing both directly and indirectly.

Ecosystem services of a tree



Ecosystem services, i.e. the services provided for the entire surrounding ecosystem by a tree for free:

- Regulate temperature by providing shade in which it is cooler, and through evapotranspiration (Ch 10.3 Importance of urban trees)
- Filter air pollutants by trapping onto their leaves fine particles from e.g. the traffic (Ch.10.8 Air quality in a green city)
- Sequester carbon (tie up carbon from air for the tree to grow) (Ch 10.2 The ecosystem services provided by trees)
- Manage and filter rainwater and stormwater (water gets tied up in the soil and taken up by roots of trees) (Ch 10.3 Importance of urban trees)
- Recharge groundwater (allow the rainwater to infiltrate ground all the way to ground water level) (Ch 10.3 Importance of urban trees)
- Stabilize soils through e.g., soil aeration through root systems
- Prevent erosion by holding ground together with their roots
- Providing food and shelter for living organisms, including humans (10.7 Mature Trees in the city)
- Improving urban inhabitants' well-being. (10.9 Dr Forest and trees as the health care personnel)



1.2 Trees as guardians of your health



According to studies, many youngsters experience stress due to homework, ambitions of students themselves as well as fear of failure or fear of saying no to the teachers. Disagreements with friends and being (cyber) bullied also contribute to stress, which the youngsters try to fight with the help of solutions like watching TV and surfing the internet. Excessive use of the mobile devices and screen time in general affects our mental energy, our ability to focus and even our eyesight. All these activities keep us sitting still. Lack of movement and no time spent outdoors can make us sick, apathetic and obese in the long run. We need long term solutions instead of these short-term ones!

Luckily, there is a green pill to take, all backed by scientific evidence! Here are some of the main benefits trees and urban forests provide us with:

- Studies have shown that humans can restore from stress and mental exhaustion better in natural surroundings (parks, forests, etc.) than in built environments (e.g. city streets, etc.) Spending time outside unplugged from technology helps your body and mind to calm down even without you knowing it. It is how you have been built!
- Coming in contact with natural materials, such as tree bark, forest soil, stones, leaves, moss... is good for our physical health. In natural environments, such as the forest, there exist several microbes that are absolutely not dangerous to us. On the contrary, our system should be exposed to these microbes to know the difference between what it should armor up against, and what is safe to be in contact with. That is how we keep our immune system army well trained and functioning.
- Nature lifts our moods when we are feeling down. Also, our feelings of positivity and wonder increase when we spend time outside. Just think of an afternoon at the beach, a walk in the park, or a beautiful view out the window. Indeed, even a view out of the window to nature can help you to feel better!

- Imagine a view over a scenic mountain landscape. Looking far can induce a feeling of awe which has been discovered to generate more generous, more friendly behaviors in us. This feeling of awe relates to gratitude which increases our satisfaction in life.
- Nature affects our creativity: when our brains have had the time to rest - which it does automatically in a green environment because this is how we have been built - creative and abstract thinking can flourish again. During exams, it is especially important to schedule some time of doing nothing and just looking at some trees, flowers or birds on the sky.
- It is not only the sights of nature but also sounds and pleasant smells of nature that our brain recognizes and that help to produce the same wellbeing effects of stress reduction and mood enhancement.
- In case you or someone you know has ADHD, time in nature can also significantly help by reducing ADHD symptoms as the volume of stimuli is less and the nature of the stimuli is softer. Imagine the difference between car horns and bird song... There is nature at work!



- Finally, being outdoors in nature influences our physical body and immunity when we are exposed to sunlight. Our skin absorbs the vitamin D from the sun light which is good for our immunity in reasonable doses. Furthermore, the air is normally cleaner in natural environments where the sources of pollution are further and the trees help to filter out air pollutants, and there is more oxygen which refreshes us in comparison to a stuffy room. Doing sports outdoors, builds our condition faster, because movement outdoors feels more effortless because nature has many sights and sounds to pay attention to.



1.3 Importance of green school yards



Due to our sedentary lifestyles, commuting in cars, trains and busses and increased screen-time most of us tend to move less nowadays. Movement is important, not only to stay fit and lose weight, but because movement can protect your life-long illnesses caused by sitting too much.

Green school yards, i.e. school yards where instead of asphalt, there are grass lawns, gravel roads, plantings of flowers, shrubs, and trees, offer an important resource for us, as they enable us to be exposed to nature possibly the only tie during a regular school day. Getting to school either by foot or by bike can constitute over half of our daily recommended brisk exercise and nature exposure. Especially biking to school is often connected to being overall fit.

Remember the positive effects of nature on our wellbeing? Green school yards help you to experience less stress, and especially if you or a friend of yours has ADHD and ADD, green school yards help them to maintain their attention and therefore function better at school. Furthermore, having a chance to relax in a green surrounding during the recess, restores your creativity and abstract thinking skills. It has even been found that on green school yards, students have less arguments and bullying.

Maybe your school yard could benefit from a few more trees, bushes, plantings of vegetables, fruit and blooming flowers?

2. Our connection to nature

What does nature mean to you? What is nature after all?

It is likely that the answers to these questions vary between you and your classmates. Feeling connected to nature is a concept from psychology and it can be measured. It is measured using a questionnaire with questions like “I always think about how my actions affect the environment” or “My ideal vacation spot would be a remote, wilderness area”. The result of this test tells you how connected to nature you feel.

Why is this important? It has been found that an individual's actual nature connection is related to their mental well-being as well as how pro-environmental (i.e. consider environment in their daily decision) behavior. The more connected to nature you feel, the more likely you are to consider it in your everyday decisions and the better you are feeling emotionally. You will also likely spend more time in nature, which is good for your health in general.



Recent studies have found five pathways that can lead to increased nature connection. These 5 pathways (Meaning, Compassion, Senses, Emotion and Beauty) are listed below.



MEANING - nature bringing meaning to our lives, e.g. the first migratory birds in the spring, a sunset or sunrise...



COMPASSION - caring and taking action for nature, e.g. collecting trash in nature, helping a wounded animal..



SENSES - tuning in to nature through the senses, e.g. listening, enjoying the scents, feeling the textures, ..



EMOTION - feeling alive through the emotions & feelings nature brings, e.g. hearing the increased birdsong in the spring, experiencing a thunder storm or a blizzard,



BEAUTY - noticing nature's beauty, e.g. enjoying a breathtaking landscape, rainbow, a detail, scent, sound, music or piece of art depicting or inspired by nature...

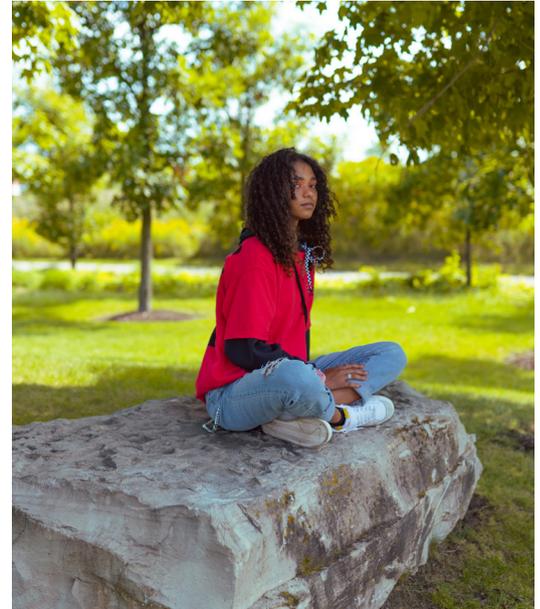
We invite you to reflect on what sort of beauty, emotion, compassion, meaning you can identify in nature when engaged in the lessons and which senses have you been using during the lesson?

3. Coping with worries about the future

The global School Strike lead by Swedish teenager Greta Thunberg has mobilised millions of youngsters worldwide. This movement is very encouraging as it shows politicians that young people are taking their future seriously and that it is time to take the state of the environment seriously.

Opportunities to take action make it easier to cope with the worries one might have about the future and to be able to express one's feelings. If you or any of your friends have had "negative" feelings such as worry or grief for the planet, or anger against the lack of measures being taken, these feelings could be channeled into action and motivation.

Here are some central coping mechanisms that can be of help if you or someone you know suffering from negative feelings caused by climate change, the pandemic or environmental problems.



Behavioral strategies:

- **Having fun, feeling good:** remembering the positive angles, working out the positive aspects of sustainability
- **Maintaining healthy routines:** physical exercise; healthy food; enough sleep; time in nature; permission to good around
- **Taking action:** participate in climate action groups; lobby politicians & industry leaders; change your behavior
- **Take a break from being too focused on the problem:** turn off the 24/7 news feed; dedicate a 'do nothing day'
- **Focus on one issue to lower stress levels:** prioritize the activities you chose to invest your energy into, you don't have to do it all.

Relational strategies:

- **Seek social support:** share concerns, thoughts & feelings about climate change with trusted friends & colleagues

Cognitive strategies:

- **Drop the judgements:** 'shoulds' & assumptions: difficult life experiences are painful enough without criticism
- **Balance action with reflection:** Read, write a journal or a blog, talk with kindred spirits about how they cope.
- **Cultivate hope:** transforming fear about the fate of the planet into a positive experience. Fear can fuel action.
- **Restore yourself psychologically:** spend time in (green) environments that match your aims to restore yourself.

Source: Australian Psychology for Safe Climate (PSA)



4. How does this package work?

In this section we describe how the lessons are built, so that it easy for you to follow the lessons on your own.

There are 5 lessons that you can follow on your own. These are:

#1 It all starts from a seed

#2 Noticing trees in cities

#7 Forest for rest

#10 Finding peace of mind in the city

#11 (non)- native species

Setting the scene

Setting the scene to the topic means providing you with the background information you need to have to be able to understand the concepts introduced in this lesson.

Activity

The activity is described in its most basic form. Please consult your teacher to decide how you will deliver the lesson (mindmap, journalling, artwork..) If you would like to dig deeper in the same topic, you can continue with Taking a step further.

Reflections

At the end of an activity, we suggest some reflective questions to make sure you have understood what was taught and can find a place for this new information in your past experiences and existing knowledge. For the reflective questions often, there is no one right answer but more than one answer is correct. Again, please consult with your teacher how you should record your reflections.



