
GreenCity

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About GreenCity

"Green transformation of modern city environments to support community building and development of soft skills" - GreenCity is an Erasmus+ project which aims to the green transformation of modern city environments by proposing outdoor activities for non-formal education. We support the transformation of unused public spaces into green hubs that promote intercultural dialogue, community building, safe lifestyles, civic inclusion, and the incorporation of disadvantaged people.

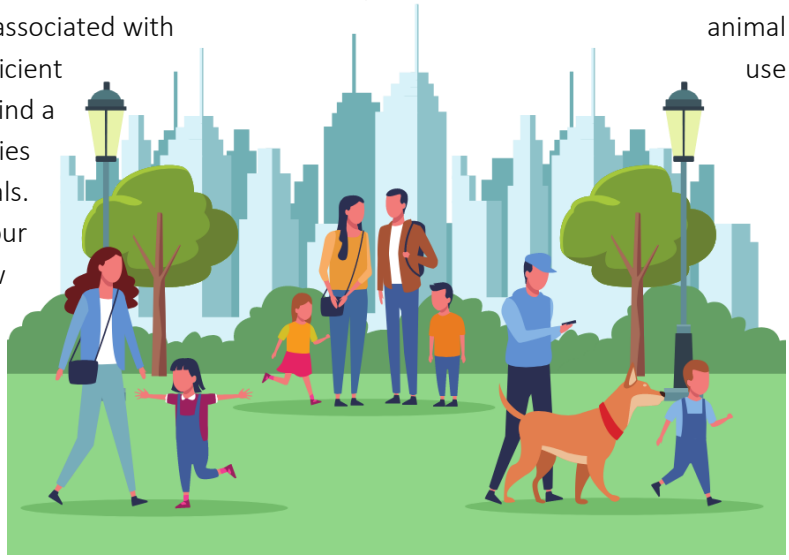
1. Introduction

Urban Agriculture – A Next Big Thing for Cities

Urban agriculture – often defined as agricultural and/or food production activity that takes place within a city and which forms an integral part of the surrounding ecological system and urban economy – has always existed in developing countries, where it can play a major role in feeding populations. Feeding today's and tomorrow's cities using sustainable food production is an urgent task. With the continually-growing world and urban populations, climate change and pressure on natural resources, global food security are paramount.

Feeding the planet's population will be one of humanity's greatest challenges. Vertical farming and urban agriculture, if designed and implemented appropriately, could offer sustainable and innovative solutions for improving food security.

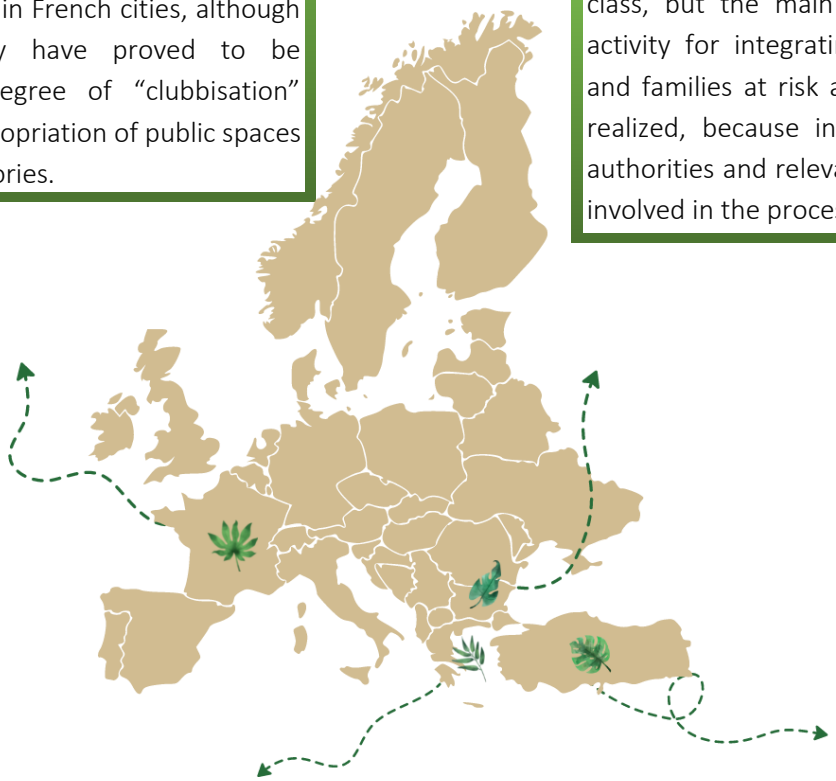
The growing of food in cities will never mean that conventional agriculture will disappear. At the moment we cannot grow staple foods such as grains indoors or on a small scale. We might be able to keep chickens and produce eggs in urban environments, but our consumption of meat protein is either going to have to decline considerably due to the greenhouse gas emissions associated with animal production and the inefficient use of land or perhaps we will find a way to grow meat in factories without the need for animals. But for the remainder of our diet, we can choose now from the following range of options. Introducing agricultural projects on roofs, walls, aboveground and underground lots supports the development of a sustainable and resilient urban model in a multitude of ways. These include shortening food supply chains, strengthening community ties, building awareness around healthy eating, contributing to food security, providing ecological services like storm water management, fostering biodiversity, mitigating heat islands and enhancing energy efficiency in the built environment.



In 2050, 80% of the world's food will be consumed in cities.

An important form of urban agriculture is association-based or shared gardens, which can be found in most cities in **France** (as in other countries), often managed by local groups or neighbourhood associations, sometimes on behalf of local councils on parcels of municipal land that are either gardened collectively or divided into smaller plots that are then allocated temporarily to group members. The community gardens, maintained and managed by residents' associations, have grown rapidly in number over the last 10 years or so in French cities, although in some cases they have proved to be instruments for a degree of "clubbisation" marked by a semi-appropriation of public spaces by certain social categories.

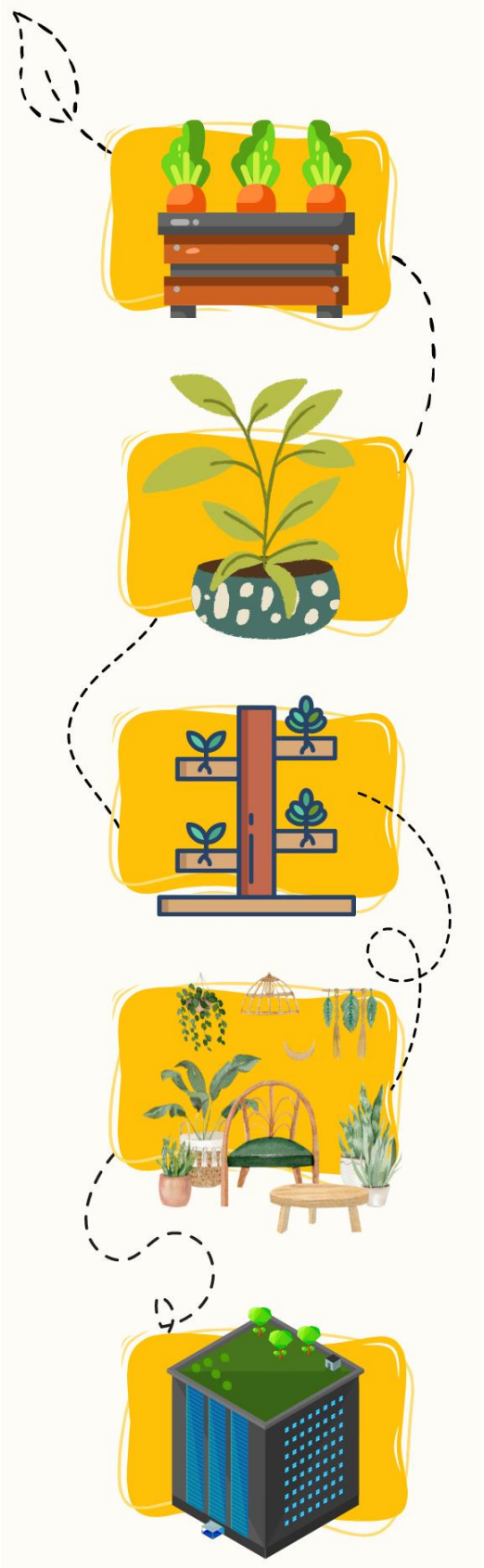
The history of urban agriculture in **Bulgaria**, can be summarized as follows: a small number of non-governmental and informal civil organizations set up gardens that satisfy the demand on the part of young people, who we can tentatively call representatives of the middle class, but the main potential of this type of activity for integrating and supporting people and families at risk and living in poverty is not realized, because in order to realize it, local authorities and relevant institutions need to get involved in the process.



Urban agriculture essentially did not exist until very recently in **Greece**. Its rapid development coincides with the rapid deterioration of living standards in Greek society in recent years due to the deep crisis. But its roots can be traced back to a few years earlier: to the first years of the 21st century when small libertarian and alternative and ecological circles decided to experiment with this way of life. The self-managed urban exploitations are generally small in size and operate with collective management. Almost always these exploitations have many other political or cultural activities (seminars, public debates, festivals, theatrical groups etc.) apart from production.

In **Turkey**, cities like Istanbul have a 1600-year-old tradition of urban agriculture. In 2022 the Turkish government introduced an urban agriculture model to encourage agricultural activities in big cities, at a time when rural populations are in decline. The model will bring centers of production and consumption closer, curbing logistics challenges such as additional transportation costs. It will provide access to fresh foods rather than artificially preserved ones for urban dwellers and boost employment, a critical issue for cities with large populations.

2. Types of an Urban Garden



Raised Beds

If there is enough outdoor space, raised beds might be the best option since, they will offer the most room for urban plants to thrive, while having excellent control over the growing conditions, too.

Containers

Another excellent option for the urban gardener is to grow in containers. Containers allow moving the garden around to wherever makes the most sense at the given time. No matter what kind of material, size, or shape of the pots, excellent drainage is very important. Containers tend to leach nutrients and water more quickly than in-ground counterparts, but they also can be prone to becoming waterlogged if they don't have drainage holes built-in.

Vertical Gardens

A vertical garden is another option. Although this method works best for trailing edibles or vining plants like peas, strawberries, and squash, it can be an option for just about any kind of plant. It saves space and allows to maximize vertical space, instead of horizontal acreage.

Indoor Gardening

Indoor gardening is yet another option. Herbs, sprouts, and even microgreens can be planted indoors. Take advantage of gardening under grow lights, hydroponics, and even aquaponics if you want to grow indoors!

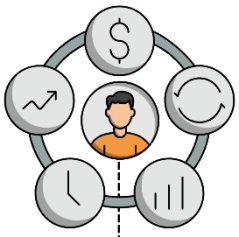
Balcony and Rooftop Gardening

Last but not least, balcony and rooftop gardening are two other options for urban gardening. Consideration should be given to intense sun, higher winds and water access. This is a great option for urban gardeners who don't have a lot of space – and perhaps are living in apartments – yet still want to be able to reap all the benefits of gardening. In many cases, balcony and rooftop gardening integrate other techniques, like container gardening or vertical gardening.

3. Soft skills

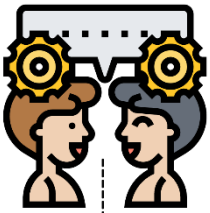
If you decide to take an active part in an urban community garden you can enhance the following skills:

Planning skills



Ability to organise & manage the workload

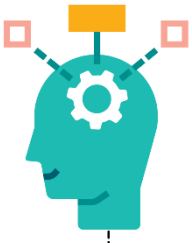
Problem-solving skills



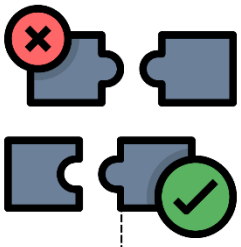
Communication skills

Ability to work individually and in a team

Financial awareness



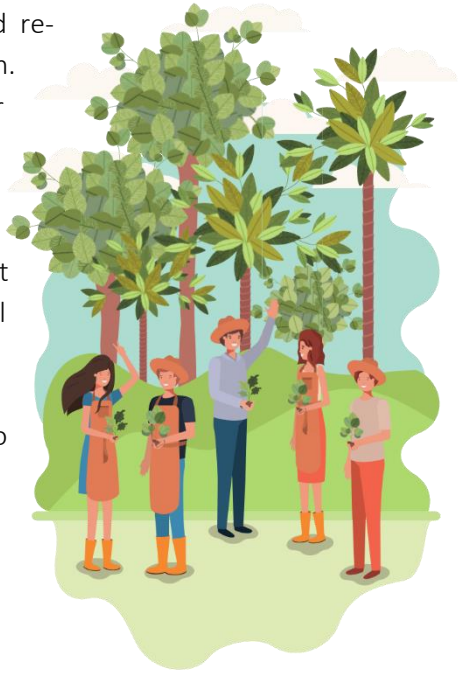
Critical Thinking



Adaptability

4. Social Integration

How can urban gardening bring fair access and social cohesion to the population and how it can aid in the social integration of disadvantaged groups?



Many projects, or associations, aim to re-socialise and re-connect urban citizens and to break up social segregation. Community gardens have become an important tool for reaching those aims. Community gardens are places of social interaction and communicative exchange. For many gardeners, communal work and being together (sharing identity, belonging etc) are the most relevant motives for urban community gardening. Moreover, social contact, exchange and communication in people's natural environment make urban community gardens so important. Urban gardens offer unique opportunities to establish relationships within and across physical and social barriers, including:

- Inter-generational exposure to cultural traditions
- Cultural exchange with other gardeners
- Access to non-English speaking communities

A recent study found that compared to residents living near barren areas, those closer to green common spaces, are more likely to use them and as a result more likely to interact with neighbours.

Time with family

Sowing, harvesting and processing food sensitise people to nature and enables people, especially children, to experience cycles of nature. Parents enjoy community gardens as they enable them to communicate with other parents and keep their children busy. In comparison to playgrounds, parents and children see their time in community gardens more meaningful and useful.

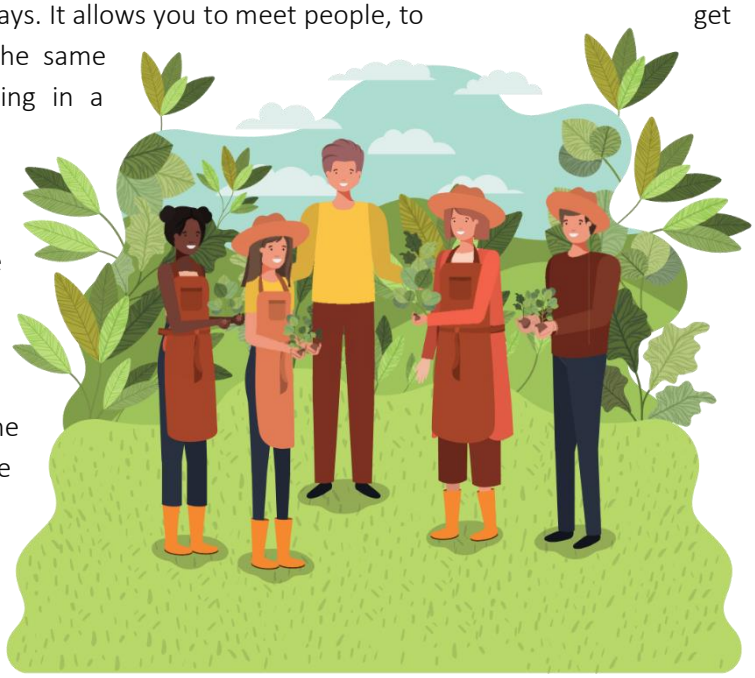
Interpersonal exchanges that enrich the garden

Because of the mix of people involved in the maintenance of the garden, knowledge about its maintenance is often very rich. Sharing a garden makes the transmission of knowledge much easier and more frequent than between gardeners who cultivate their gardens individually. Gardeners are no longer isolated and can exchange tips, experiences and personal knowledge. In addition, gardeners in this type of space often use practices that respect ecosystems. Indeed, the emphasis is frequently placed on ecology. Mulching, composting, crop rotation, and

combining complementary crops or alternatives to chemical pesticides are very common practices

Social ties are created promoting social cohesion

Thanks to the shared garden, the inhabitants of the same neighbourhood can recreate social links which are very rare nowadays. It allows you to meet people, to get to know people who live in the same environment as you while being in a setting where work and daily life are put aside. The social mix is often very present in shared gardens. Indeed, people of all ages, conditions and origins come together and share moments that would not have taken place without the garden. Beyond the maintenance of the garden, moments dedicated to animations (such as meals, concerts or other cultural events) make the creation of social links even more intense. Several ingredients contribute to the emergence of this social cohesion. Looking after a garden is a non-binding activity that allows fragile and isolated people to interact with others gently. It also involves contact with the land and leads to a rewarding production. It also makes it possible to reintegrate people into the labour market within the framework of the social and solidarity economy, but also to create jobs, for example for garden leaders.



This practice is not free of obstacles and difficulties, some of which are specific to the associative environment: variable investment by members, diversity of commitments, and internal conflicts. This is why continuous animation and support are necessary. The animators carry the political ambition of the garden and relieve the users of the tasks of regulation.

Types of events that we can organise in an Urban Garden

neighbourhood parties

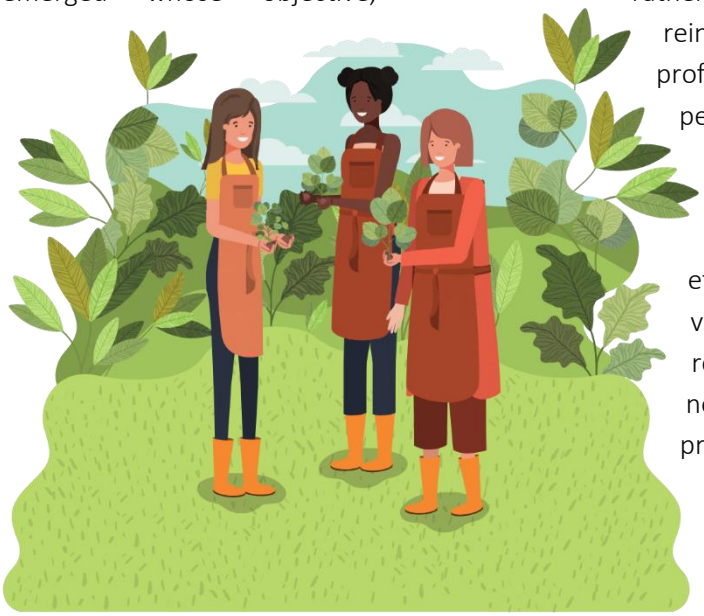
workshops

picnics

mini-conferences

Gardens to encourage inclusion among disadvantaged groups

Faced with the rise in exclusion over the last twenty years, a category of collective gardens has emerged whose objective, rather than market gardening, is the reintegration of people in social or professional difficulty (unemployed people, recipients of the RMI, disabled people, isolated people, young people with educational difficulties, former prisoners, etc.), under the supervision of a volunteer or salaried leader responsible for their support. It can now be said that what was only a preconceived idea has now been proven: shared gardens help to create links and social cohesion. Another benefit of a shared garden is to include a neighbourhood in a sustainable development approach. The fight against global warming requires the greening of cities, the reduction of heat islands and the seasonal nature of crops. The garden makes it possible to temporarily occupy urban wasteland while awaiting an urban project.



Community gardens offer room for significant neighbourhood-level social transformation in addition to enhancing food access. When a group of neighbours band together to plan, create, and maintain a community garden, they provide a wide range of advantages to their neighbourhood. What kind of benefits? Here are a few.

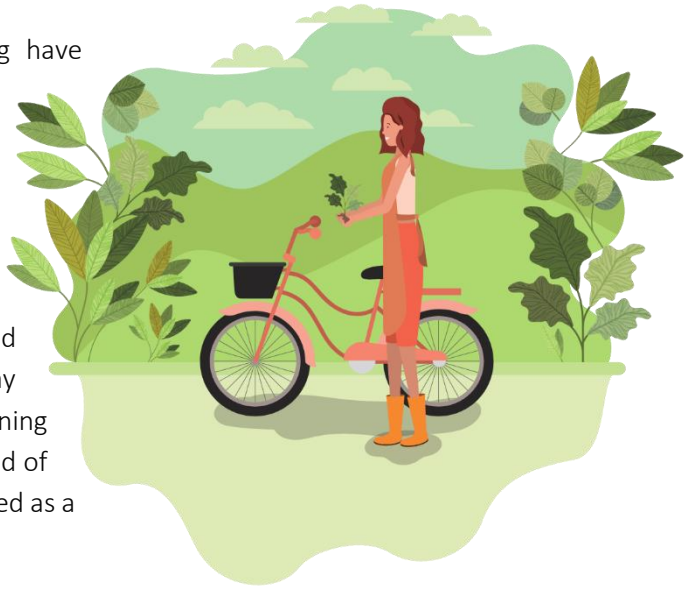
You can make friends with your neighbours there

We live in a time where many of our neighbours are strangers. Community gardens attract residents, so they provide you the chance to interact with people who may live nearby but whom you might never have met otherwise. You can work alongside these people and even develop friendships with them. At community gardens, a lot of odd friendships have developed, frequently spanning generational and cultural barriers.

They are places to learn

Participating at, or even visiting, a community garden provides the opportunity to learn from experienced gardeners. Walk through a community garden with someone who gardens there, and you'll likely end up full of questions for him or her ("What's that vegetable?" "How did you build that trellis for your cucumbers?"). Many community gardens include informational signage for visitors, and some host gardening classes or instructional tours, as well.

They are sites for restoring and building health



Spending time in nature and gardening have been linked to improved health in a growing body of academic literature. According to studies, seniors can benefit mentally and emotionally as they age, persons healing from psychological conditions like Posttraumatic Stress Disorder can benefit therapeutically, and kids with attention deficit disorder can pay better attention. In fact, the use of gardening as a therapeutic aid is the focus of the field of horticultural therapy. Gardening is regarded as a mild to moderate kind of exercise.

They are a place for children (and adults!) to explore nature in the middle of urban areas

Spend five minutes in a community garden, and you'll see a thriving ecosystem in action with birds, reptiles, plants, and insects at all phases of development. Children's attitudes toward healthy food, comprehension of ideas in life science, and social skills all seem to improve as a result of gardening, according to research. Growing research supports our species' innate desire to interact with nature; Richard Louv's book The Nature Principle is a good resource for learning more about this urge. Community gardens create habitat corridors throughout our city, which is beneficial to wildlife.

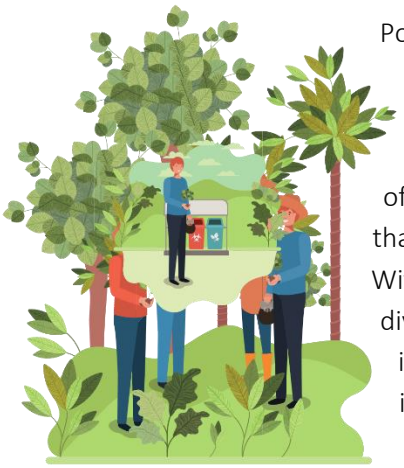
They are a place to practice teamwork

Working effectively as a team on an ongoing basis, particularly in a context where participation is voluntary, can be enormously challenging--and rewarding. Personal growth, and invaluable skills, are gained along the way.

They empower us to organize and advocate for ourselves and our communities

The skills we gain practising teamwork--how to hold constructive meetings, how to work with people from a variety of backgrounds and who have a variety of learning styles and personalities, how to resolve conflict peacefully, and how to advocate for a particular outcome--are the same skills needed for broader community advocacy. Community gardens teach us through our successes that we can make our community a better place.

They provide the opportunity for people in marginalized groups to fully participate and to take on leadership roles



Power is not distributed fairly in our society; there are gaps between groups based on race, ethnicity, gender, sexual orientation, and ability. Participants have the chance to put a high priority on equity, diversity, and inclusion in the setting of a community garden and learn how to collaborate in a way that reflects these principles. This does not occur by default. Without conscious, ongoing efforts to promote equality, diversity, and inclusion, community gardens naturally tend to imitate the same power disparities and exclusionary institutions that prevail in the larger society.

They create the opportunity to identify community assets and to build networks

By utilizing the time, talent, and resources of the local communities, successful community gardens are created and maintained. The garden's participants must first locate these resources before the garden can use them. Building connections with local residents, organizations, and businesses facilitates this. Visit a community garden and you'll learn about this process firsthand. For example, you might hear about a fence that was designed and built by a group of college students, a Girl Scout troop that built a mini-library, or a hardware store where one of the gardeners works that donated and built a tool shed.

5. Physical and Mental Health

The shared garden is a place where people grow their own vegetable garden together or in a common space. Depending on its size, it can be used to produce food or simply to recreate a link between nature and people who do not often have access to a growing space. It can also be used for educational or cultural activities. Sharing, collaboration and reconnection to nature are the key values that frame this concept. Implementing urban community gardens may be extremely useful to a city not just for environmental and social reasons, but also for health.

Gardening is excellent for physical health (3.5 hours of gardening is equivalent to 1.5 hours of jogging) and mental health: the proximity of a plant environment and gardening reduce stress and help concentration.

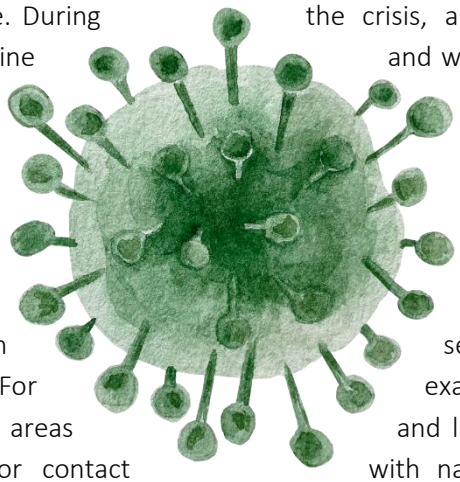
Many plants have beneficial properties. According to the latest medical findings, manual activity stimulates the release of dopamine molecules in the brain. This molecule causes pleasure. Gardening gives time a new meaning through the rhythm of the seasons, both for the gardener and for those who watch him. Allotment gardens allow us to rediscover the value of the gesture as well as the sense of work and effort. In the face of the vertigo of the virtual, they put city dwellers back in touch with the reality of the living world.

Community gardens are well known for giving neighbours a place to raise fresh, wholesome food nearby. Moreover, the quality and diversity of fruit and vegetables are the guarantee of a balanced diet. Consumed on the spot at the time of production, these fruits and vegetables contribute to reducing our ecological footprint, unlike commercial products that are often imported from distant countries. Gardening can relieve stress and increase wellness. Modern life is stressful. Most people race from one activity or item on their to-do list to the next without reflecting on why they are doing what they are doing. Gardening is an invitation to slow down, connect with nature, and foster relationships with like-minded individuals. It creates an opportunity for people to think about all of the other items on their to-do list and decide which ones are really important and meaningful. Accordingly, a community garden is a place that helps people to relieve stress and increase their overall sense of wellness. Civic participation, dialogue, a healthy lifestyle, mutual awareness, group spirit & solidarity

6. Green Spaces VS COVID-19

The coronavirus pandemic, which first appeared in late 2019 and spread quickly between connected metropolises and then through the urban-rural continuum, has been dubbed the largest public health disaster in a century. Cities are a crucial line of defence against the pandemic as COVID-19 entry locations. The COVID-19 pandemic has had a significant impact on people's lives and society. This is due to both the incident's post-acute sequelae, which will result in mental disorders and the detrimental effects on people's mental health caused by policies of physical separation and isolation intended to stop the spread of SARS-CoV-2.

A green environment is a health resource that not only enhances biodiversity, but also helps to reduce flood risk, and cools urban areas in addition to being beneficial to human physical and mental health. The concept of green space as "ecological medicine" for enhancing mental health is connected to its eco-healing benefits in reducing mental disorders and stress brought on by a lack of access to green spaces and parks. Urban life's characteristics and effects are becoming more prominent in both developed and developing nations, especially in light of the COVID-19 pandemic issue. During the crisis, a purported "new lifestyle," which included quarantine and working from home, began to be associated with urban society's well-being. In light of these difficulties, urban gardening is regarded as a substitute intervention to improve locals' quality of life and metropolitan regions' ability to sustain their environment. From the perspective of wellbeing, the rapid development in urban settings also poses a different set of challenges. For example, the population concentration in urban areas and lifestyle changes have led to reduced opportunities for contact with nature in daily life, and the increased urbanization is associated with the stress of financial and health burdens, which have led to a demand for mental health enhancement strategies. Reflecting on the current situation, there is the notion of creating cities that are more liveable and environmentally friendly, which is also reflected in the United Nation’s development framework of Sustainable Development Goals (SDGs) through the interaction of provisioning, environment, and wellbeing. Based on the SDGs, there are several interrelated goals and targets. The third goal, for example, is related to “Good Health and Wellbeing”, which requires the cooperation of countries and societies.



Studies show that green urban design and planning practices affect the psychological wellbeing of vulnerable groups. As cities seek to become more liveable and environmentally friendly, there is a consideration for cities to invest in infrastructures to enhance the quality of life, such as household gardening. In another study, the importance of contact with nature in urban areas is highlighted regarding mental well-being and health.

The situation of COVID-19 pandemic has only added to the challenges for urban settings and an emphasis on the mental wellbeing of urban societies is becoming more prominent.

7. Views On The Environment, Economy And Society

Environmental awareness is one of the most important concepts we as a society should encourage. Because every one of us is responsible in our personal life for their environmental footprint, it is vital we are all educated on the main topics and facts in the field of ecology and environmental stability. Here we aim to focus on some of the aspects we can all improve both personally and in society in order to achieve a better ecological culture and active citizenship.

Let's first start with individual knowledge and habits

Water

The consumption and waste of water is important because even though 70% of the Earth is covered in water, drinkable and/or usable water is way less. Even though water may seem to be an abundant natural resource, only 0.025% of it is safe to drink. Therefore, clean water is quite rare and in some places a luxury - around 2.2 billion people have no access to it whatsoever. Thoughtless use and poor management of water make it one of the world's primary sources of pollution: 80% of wastewater from human use goes back into nature, untreated thus continuing the cycle of turning bigger quantities of water unusable. This leads to extreme weather conditions which are estimated to have caused more than 90% of the major catastrophes in the past ten years. Not only that, but heat is also connected to water management. According to the UN, if we limit global warming to 1.5º C above pre-industrial levels, drought rates would fall 50%. That's why water is one of the fundamental concerns for the United Nations. Here we share some of the basic habits to incorporate in our daily lives first and then move our focus to a bigger scale:

Take shorter showers: Showers generally last around 20 minutes, and uses as much as 300 liters of water. By taking shorter showers or turning the water off for a period of time we can save up to more than half that amount.

Caring for our food: We can thaw out frozen food by leaving it at room temperature instead of running warm water over it. Another idea is to wash our fruits and vegetables in a bowl and reuse the water for our house plants.

Choosing efficient electrical appliances: The less water and electricity we use, the better effect we have on the environment. Using dishwashers and laundry machines only when they're full is one of the habits that are relatively easy to maintain and save a lot of water. A different idea is to use a water-saving device for sinks - they save up to 50 liters on a regular day.

Tending to our plants or garden at night: This simple rule will help us save up to 30% of the water that would otherwise evaporate in the morning or the afternoon.

Food

Food waste happens mainly because consumers tend to buy more food than they really need and some of it inevitably ends up in the garbage. According to the Food and Agriculture Organization of the United Nations, “food waste accounts for about 8% of total human-induced greenhouse gas emissions, which is almost as much as road transport”. Bearing this in mind, limiting food waste or avoiding it altogether when we can is incredibly important on a global level as well as personal. Some of the simplest ways we can reduce our food waste are:

Composting food waste: Composting is basically returning organic matter we would usually throw away back to the soil. Food waste is an excellent fertilizer and can be used in our gardens to help plant growth, which means less chemical pollution and water consumption and therefore more efficiency. To make sure we are composting correctly a basic rule to follow is that all leftover fruit and vegetables should be composted, while all animal residue such as dairy products, meat and fish should be thrown out.

Eating local or growing your own: Buying locally reduces the number of kilometers traveled between the product and the consumer, thereby reducing the negative impact of transport. As well as supporting the local economy, we significantly reduce our environmental footprint. The definition of “local” may vary from person to person, but it’s advisable to consume food that is produced less than 640 km from your home as a general guideline. Another option is growing your own vegetables, fruits and spices - that way the ecological footprint we have is effectively zero. We can even use the compost generated by your food waste as fertilizer.

Avoiding specific products: Livestock farming accounts for 14.5% of greenhouse gasses, the same as the transport sector. Industrial livestock farming also requires huge quantities of water. For example, the production of one kilogram of beef requires an average of 15,000 liters of water. This is why sometimes opting out for vegetarian food is useful for the environment. Another idea is to avoid highly-processed foods, seeing as their production often leads to the contamination of rivers and deforestation because of the ingredients in them, as well as their packaging, which in turn contribute to the destruction of habitats of many animal species.

Energy

To generate electricity, most power plants burn coal, crude oil or other fossil fuels. Although this method of creating energy is relatively inexpensive, carbon dioxide, sulfur dioxide and nitrogen oxides are just a few of the byproducts that come from these traditional methods of power generation. Carbon dioxide, which accounts for the majority of all airborne pollution, is a greenhouse gas and when it is released into the air, it absorbs the sun’s warmth and keeps heat in the inner circles of our atmosphere. This “greenhouse effect” is a natural phenomenon, and it’s necessary for survival on earth. However, as power plants burn more fuel to create

more energy, the extra carbon waste traps too much heat. This can and already has a detrimental impact on our land and our lives. One of the ways to battle this phenomenon is to use less energy in our individual houses. The way we can reduce our environmental energy in terms of energy usage is by:

Using natural means to help cool down (or heat up) our homes: During the summer months we should open our windows in the morning to get some fresh, cool air circulating through the home before it gets too hot. Keep the blinds closed once the sun comes up to prevent the place from heating up too much. When it's wintertime, keep the doors and windows closed (to prevent the heat from escaping), but open the blinds during the day to let in some natural light. This can help save energy for the day as you won't need to turn lights on in the house.

Using appliances correctly: Choose to do your laundry or wash the dishes either in the early morning hours or late at night. Unplug electronics, appliances and chargers not in use - unnecessary appliances connected to the electricity waste massive amounts of energy on a daily basis. Another important habit is not leaving the lamps on in rooms we don't use.

Adjusting the temperature on water heaters: During the hotter months of the year the water gets hotter faster than usual. This is generally due to the increased temperatures outside, which means that we should adjust the temperature on your water heater so it doesn't get too hot. That way when we do use hot water, it won't take as much energy to heat it up.

Replacing traditional incandescent light bulbs with eco-friendly alternatives: Changing any traditional light bulbs with more eco-friendly alternatives can help you save quite a bit of energy. More than 75% of the energy generic types of bulbs give off is in the form of heat instead of light. Compact fluorescent lights and LEDs are considered to be much better for the environment. They generally run cooler so emit less heat and are more energy-efficient, which means they last longer.

Materials

Recycling, reducing and reusing are the three R's of environmental practices and each of them is essential when it comes to material usage. Recycling the items we have conserves natural resources, reduces pollution and saves energy. Reducing our initial usage of materials bad for the environment makes these items way less, therefore we have a smaller footprint in general. Finally reusing what we already have, lessens the need of going through the same circle of buying and recycling all over again. Here we list some ideas as to how we can be more careful in terms of the materials we use.

Reducing our use of plastic bags: Plastic bags take centuries to decompose and pose a particular threat to wildlife. Hundreds of thousands of animals are killed each year, both on land and in

the ocean. Not only that but they pose a threat to the soil, plantlife and even human-made items. A sound solution to using too many plastic bags is simply bringing your canvas purses. Another very important part is using and reusing the ones we already have for as long as possible. Finally - properly recycling them means they won't end up in nature, which is vital.

Buying the essentials: Excessive personal consumption of goods means higher direct and indirect costs to the environment, including the energy used and pollution emitted in the extraction of natural resources, as well as in the manufacturing, transportation, and disposal of goods. These costs can be substantially reduced by avoiding impulse buying and making a realistic assessment of one's needs before making a purchase. When we do buy goods, finding durable alternatives with the smallest amount of packaging and the lowest possible carbon footprint and keeping them in good condition is essential.

Avoiding disposable products: Paper and plastic plates and utensils, disposable diapers, paper towels and napkins, cheap plasticware, and other non-durable consumer goods are everywhere. A great concern are the greenhouse gas emissions that result from these items' manufacturing and disposal. Store away a quantity of durable, bargain-priced dishes, flatware, and glassware for parties and picnics. Use cloth napkins, cloth diapers, cloth rags, rechargeable batteries, durable razors, and refillable coffee thermoses for take-out coffee. This way we can lower our usage of these less-durable items.

Upcycling: Repurpose items that still have life in them. Reusing waste materials, from high concept artistic statements — like a chandelier from bicycle parts or an aquarium from an upright piano to simple DIY projects like turning plastic bottles into planters, wine bottle corks into bath mats, and various containers into toy organizers is not only fun but very useful for the environment. These kinds of reuses do not remove a large percentage of material from the waste stream, but, to the extent the reimagined objects take the place of new purchases, they save energy and reduce the greenhouse gas emissions required for their manufacture.

Giving new life to old electronics: The world's output of discarded electronic devices reached nearly 45 million metric tons in 2016, according to a report by the United Nations Environment Program. Electronics require a lot of water, energy, and valuable resources in their manufacturing, so reusing and recycling them is critical to environmentally-sound waste management. TVs, computers, cell phones or other consumer products containing electronics that still work can be given to someone who can use them. There are nonprofit organizations that specialize in the charitable redistribution of computers and companies that refurbish electronics for resale. If the electronic device is no longer serviceable, there are many recyclers who are interested in the valuable metals it contains.

As long as we hold up to these or similar standards on a personal level, each of us will be making steps towards a wider improvement in our ecological state. This leads us to our next step, namely a change in urban and small-sized societies. We will separate the following topic based on ways to improve our society in terms of firstly different materials and secondly activities we can implement for further development.

What can we do as a small-scale society

Water

Here we focus on what we can change in terms of water usage in our respective cities, neighborhoods, work spaces and more. Some possible ways to improve our smaller societies are applying materials around trees and plants to slow evaporation and decrease the outdoor space's water demands. Using rain catchers or barrels to collect and store rainwater for later use in the lawn and garden is also a great idea. Rainwater may actually be better for plants because it does not contain any added chemicals. When we do use automated machines we should also do so considerately. Running sprinklers during the coolest part of the day - when leaves and roots can absorb the most water - and aiming them so water is not wasted on sidewalks or driveways is very useful. Another very important aspect is changing the appliances with water-saving ones in communal areas like schools, hotels, work spaces and more. This way we get used to saving water not only in our households but everywhere we go.

Food

All food that is grown or harvested, but never eaten, is considered food waste. Items damaged during transport, food in grocery stores that turns spoiled before it can be sold, leftovers from a meal prepared at home that are not eaten, food dishes prepared in a restaurant that are never served and are instead discarded are all examples of food waste. Some common reasons why this happens are things like supermarket promotions that persuade people to buy food we may not need just because it's such a "good deal". Another is quality standards that rely mostly on the appearance of fruits and vegetables resulting in perfectly edible - but less-than-perfect-looking - crops being left to rot in the field or discarded after harvest. Finally consumers and grocery stores often discard food products because the current date is past the food product's stated "Sell By," "Use By," or "Best By" dates. With the exception of some products like meat, dairy and food for infants, these dates relate to best flavor or quality and often have nothing to do with food safety. Battling these phenomena is one of the first steps to managing food waste. Food-recovery groups that rescue edible but unsellable food from supermarkets, restaurants, and institutional kitchens are one of the organized options that already exist. Implementing bigger scale plans in places like restaurants, schools and others is also very important. That way the biggest productions of food on a local level can be managed and therefore the least amount of food possible will be wasted. Another idea is redirecting compost and organic garbage to local farms. This way already organized commercial food waste will be used to support local

business. Finally raising awareness of food waste prevention and recycling should be community based, reaching community members in familiar places.

Energy

Energy is used in communal places, not just at home. This is why here we offer some changes to bigger areas (banks, common buildings, state-owned property, restaurants, parks etc) to make energy-saving a bit easier. Timeout functions can be adjusted, and some systems have an integrated nightlight, which provides an added amenity. Encouraging alternative transportation (e.g., distributing resources on alternate transportation such as walking and biking maps or bus schedules and a few free bus passes, promoting a community-wide bike-to-work challenge)is also greatly valuable, seeing as this way not only is energy reserved, but air quality is improved. Increasing community renewable energy production or consumption (e.g., conducting outreach to encourage voluntary purchases of renewable energy, providing rebates for solar energy installation, encouraging residents and businesses to invest in community solar projects). Finally help the schools become energy smart, and redirect the savings toward student education by using daylighting design, advanced ventilation systems, and water-source geothermal heat pumps.

Materials

There are a lot of materials that are discarded on a community level which can be saved with some organization. Collecting old toys, clothes, books, furniture, and other household items to donate to a local charitable organization. Establishing community drop-off centers for old computers, TVs, and other hard to recycle electronics is just one of the options. Cleaning up parks and other common areas and then going on a trip to the local recycling center to drop off collected bottles, glass, plastic, and papers can be a fun community activity in which kids get to participate as well. Another idea is opting to go paperless in most state businesses. There are great online programs which can be implemented and they not only save paper but the time and energy of the consumers to go to and from the state location. Finally, implementing infodays and workshops on how to recycle, reduce and reuse the goods we have at home will start building the habits of each and every one of us which is incredibly important.

8. Good practices

Urban Garden in Agios Dimitrios, Athens, Greece

After 2011, in the face of crisis and austerity hardship and the collapse of the central public welfare system, many municipalities assumed the role of enhancing food production through urban allotment gardens. In Agios Dimitrios, the idea emerged from a couple of newly elected representatives one of whom was part of an agriculture cooperative outside of Athens. A mixture of social and environmental goals was set (to change the microclimate, to change people's habits, to reintroduce contact with nature in the city, to be environment-friendly through good practices, and to create an educational ground for children).

Figure 1. Urban Garden in Agios Dimitrios, Athens, Greece. Source: https://una.city/nbs/athens/municipal-urban-garden-agios-dimitrios

Urban Vegetable Gardens of the Aristotle University of Thessaloniki, Thessaloniki, Greece

The Urban Vegetable Gardens of the Aristotle University of Thessaloniki is a project aimed at bridging the gap between the scientific and local community while reconnecting people to the land and growing food, only with biological methods. It has been on for 8 years with success. There are 450 gardens of 100 m2 which are distributed to civilians every year and they can keep it from 1 year to 3 years. At the beginning of the growing season, the gardeners can attend some introductive seminars about gardening. Also, there are students of agriculture school to advise them. The products are strictly for their use and not for sale. They can cultivate annual vegetables, herbs and flowers.

Figure 2. Urban Vegetable Gardens of the Aristotle University of Thessaloniki. Source: https://www.interregeurope.eu/good-practices/urban-vegetable-gardens-of-aristotle-university-of-thessaloniki

Kipos garden, Thessaloniki, Greece

Another initiative, as a part of Thessaloniki´s "City as a resource" campaign, Kipos is a project where local gardeners work together to create public urban vegetable gardens. ´Kipos´ means garden in Greek, and these spaces transform existing parks, abandoned properties, and outdoor spaces inside public buildings into green areas. These projects can be implemented despite limited funding and infrastructure because they are led by the public, under the city´s supervision. These new green areas are building community through shared maintenance and are becoming social spaces for neighbourhoods.

Figure 3. 'Kipos'' garden in Thessaloniki, Greece. Source: https://www.openhousethessaloniki.gr/building/kipos3/

“La Serre”, Paris, France

Culturally, urban farming makes a lot of sense for Paris. In the 18th century, ¾ of the city was dedicated to farmland. French cuisine is also coveted worldwide, in large part because it authentically local in nature–the country grows, packages, and exports local product throughout the world. What Paris does not have a lot of, though, is space. Only through a commitment from the municipality to find and lease unused rooftop spaces was urban farming able to grow within city limits.

The first phase of a vast urban farming project in Paris named “La Serre” is now under way following a two-month delay caused by the Covid-19 pandemic. Set on a Paris rooftop, the farm is set to grow over the next two years to become the largest urban farm in Europe. The farm, on a rooftop of the Paris Exhibition Centre in the south-west of the city, currently covers an area of 4,000m², but those behind the project plan to expand the agricultural space to 14,000m² by 2022. They hope to be able produce around 1,000kg of fruit and vegetables every day in high season thanks to a team of around 20 farmers while providing a global model for sustainable farming where produce is grown locally and according to the seasons. Paris Expo Porte de Versailles, a trade fair and conference venue, is also set to become a biodiversity refuge thanks to this creation, which will be the largest urban rooftop farm in the world. It will host a number of activities and a convivial place, high up in the sky.

Figure 4. “La Serre”, vast urban farming located in Paris, on the top of Paris Exhibition Center. Source: https://convention.parisinfo.com/

In the map below, Paris city gathered the different urban shared gardens existing in the city. Some of them signed the Green Hand Charter “Charte la Main verte” in order to commit to a

participatory approach, to the creation of social links and to gardening in respect of the environment.

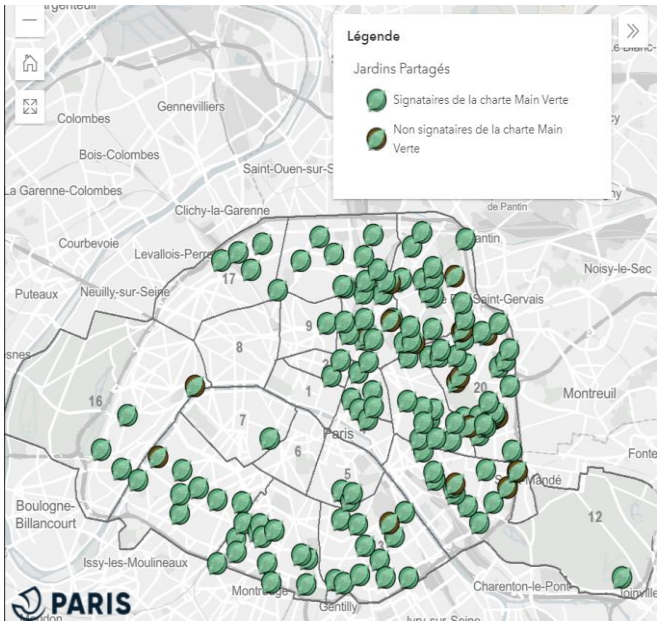


Figure 5. Map of Paris presenting the different public shared gardens. Source: Paris City Hall website

"QPark Perrache - Archives", Lyon, France

Lastly, futuristic projects for vertical farms, in the form of "green towers" or "agricultural skyscrapers" can be found on architecture websites and in certain writings. These utopian constructions, intended for food production, sustain the dream of a fully autonomous city, with the possibility of an integrated production chain with a different process on each floor. Beyond their utopian function, these projects deserve attention because they suggest solutions to the problems of land (un)availability and land use, at a time when plans to "reverticalise" cities are increasingly appearing on political agendas. What vertical farms offer is the elimination of transport costs and the resultant carbon footprint, as well as a regular supply of produce that is unaffected by the climatic and seasonal variations that field-based crops are subject to. So far, it is above all their depolluting and landscaping qualities that have proved an operational reality, as exemplified by the Perrache multi-storey car park in Lyon, with its pollutant

Figure 6. The green wall of the Qpark Perrache–Archives car park in central Lyon. Source: Mur Végétal Patrick Blanc

destruction system composed of micro-organisms in the root system of the plants in its green walls.

“Strasbourg ça pousse”, Strasbourg, France

“Strasbourg ça pousse” is an initiative that invites the citizens of Strasbourg to garden their city. The city is committed to supporting residents who wish to invest in building a resilient, greener, more open and more sustainable city. Residents can submit their projects and discover the different nature areas in Strasbourg: allotment gardens, shared gardens, collective urban vegetable gardens, school gardens, picking areas...

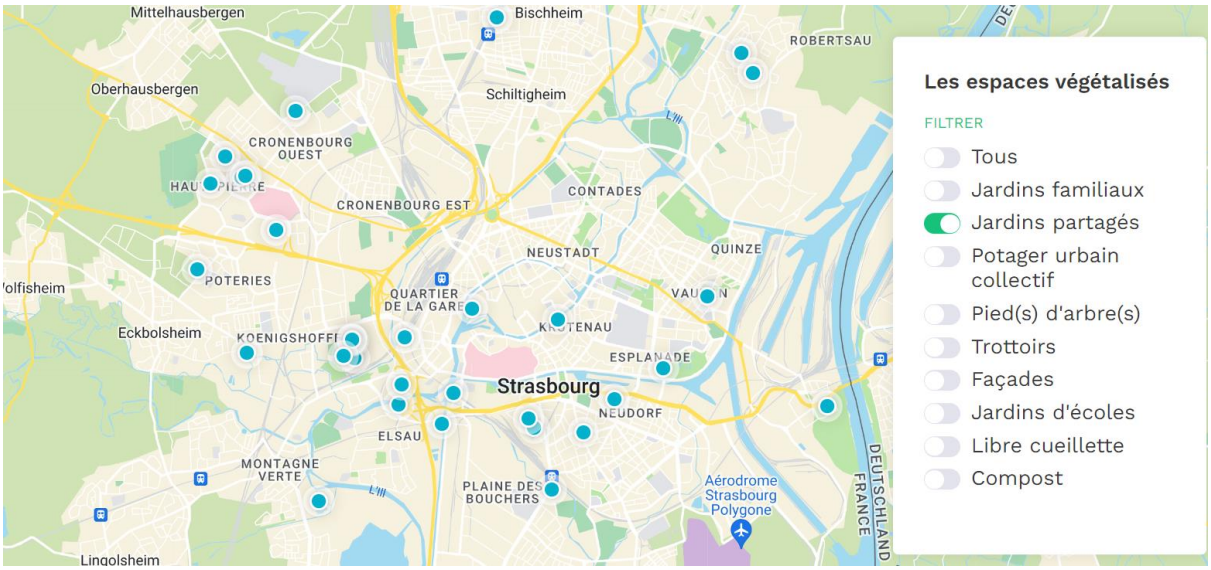


Figure 7. Map of the shared urban gardens in Strasbourg, eastern part of France. Source: www.strasbourgcapousse.eu

Multi Kulti Garden, Sofia, Bulgaria

Multi Kulti Garden is an open and democratic place for meetings between Bulgarians and foreigners, which supports the two-way integration process through shared cultivation of edible and decorative plants from all over the world, organising community and cultural events and exchanges. The garden empowers migrants, refugees and the local community by including them in a project to co-create a multicultural city garden where they will have their own ideas, views, as well as spices, herbs, and vegetables from their countries of origin. Studies have shown that soil and plant work has a beneficial impact and reduces levels of stress and anxiety.

The garden also aims to:

- develop a community around it actively looking for sustainable green urban solutions related to waste reduction and recovery, improving air cleanliness, enhancing urban spaces, creating urban oases
- create a sustainable model for green urban innovation that can be applied elsewhere for social purposes
- assist Sofia Municipality in promoting and implementing its green policies
- put Sofia on the map of good European practices in the field of sustainable urban development through community agriculture

Figure 8. Multi Kulti Garden. Source: https://multikulti.bg/en/projects/multi-kulti-garden

The Near Farm, Sofia, Bulgaria

This is a family-made farm, which offers camps for children. They created this place out of their love for nature and their desire to teach their kids a more natural way of life. The idea of a family farm came by itself. They started with a small garden for themselves, then expanded it, until soon the greenhouse occupied their entire yard and that of the neighbours. Step by step for several years this has become the only organic farm that offers baby salad mix from September to Christmas and from February to May. And in the summer, they turn the farm into a school in nature, organize children's camps and welcome many children to their outdoor classroom. In their camps they focus on building the mind, heart and will of the kids they receive. They mainly focus on the appropriate virtues, the benefits of gardening, team projects, natural school and experiential learning. The way they organize these activities is through 5-day camps without sleepers which have different themes every week held in diverse areas. They work in the garden according to the season and what they can do and they have different animals.

Figure 9. The near farm. Source: https://blizkataferma-com

ZaDruzhba Urban Garden, Sofia, Bulgaria

In 2015, the zaDruzhba community garden was born. ZaDruzhba is managed on a horizontal basis and all decisions require a consensus among the representatives of each plot. Soon after the beginning a five-person committee was formed. Their first task was to find a suitable plot – this took a whole year. With the help of the municipal enterprise Softproekt (now called Sofiaplan – ed.) they found an illegal 250 square meter parking lot in the municipality of Vitosha. She and other like-minded people began renting the lot from the municipality. They were able to find many sponsorsand build the necessary infrastructure which cost BGN 20,000. This is how Communal Vegetable Garden 1 came to be. They raked the soil, brought in ten truckloads of fresh dirt, put up a fence and built a system to collect and store rainwater from the roof of a neighboring greenhouse. One company provided them with a solar system and water pump. The twenty plots, each measuring 8 square meters and costing BGN 200 per season in rent, were soon filled, and in 2019 the garden was officially opened.

Figure 10. ZaDruzhba Urban Garden. Source: https://vijmag.bg/en/article/sofia-s-gardeners

Dumankaya Flex Kurtkoy, Istanbul, Turkey

It is a nature-friendly green building project in Istanbul.


Figure 11 & 12. Dumankaya Flex Kurtköy. Source: https://www.guncelprojebilgileri.com/istanbul-anadolu-konut-projeleri/dumankaya-flex-kurtkoy

Istanbul Uskudar Municipality Service Building, Wedding and Sports Hall Sustainable Lands

Due to the proximity of the project to basic services and public transportation facilities, users can reach these services on foot. In this way, it is aimed to reduce the carbon emissions caused by the use of vehicles in transportation. Another application made to reduce emissions and traffic load caused by vehicle use was to design a bicycle parking lot. In addition, shower and changing cabins were created for cyclists and their comfort of use was increased. In this way, building users were encouraged to use bicycles. Plants with low water requirements are used in landscape areas. To support the recycling of waste, waste bins have been placed in the building so that recyclable wastes can be separated and collected. At least 75% of the waste generated during construction was recycled.

Figure 13. Istanbul Üsküdar Municipality Service Building, Wedding and Sports Hall Sustainable Lands. Source: https://erketasarim.com/uskudar-belediyesi-hizmet-binasi-nikah-spor-salonu/

Hobby Gardens (Hobi Bahcesi), Istanbul, Turkey

In Hobby gardens, citizens have the opportunity to bring their own vegetables and fruits to their tables. The people of Küçükçekmece, who have the opportunity to grow it naturally and in the season with their own hands in their own gardens, purify themselves from city life in plots that can be planted in summer and winter.

One of the works that make Küçükçekmece Municipality environmentally friendly is the fruit trees in the Hobby Garden. There are dozens of fruit trees such as blackberry, apricot, apple, plum, pear and cherry in the orchard of Küçükçekmece Municipality, which has a total area of 10 thousand square meters. The fruits collected from this garden, which was opened only for the trips of kindergarten, primary and secondary school students, are given to the Kindness Center, Women's Guesthouse and Child orphanages.


Figure 14 & 15. Hobby Gardens. Source: https://kucukcekmece.istanbul/icerikler/merkezler/hobi-bahcesi/31705

Bahriye Ucok Ecological Kindergarten, Kadikoy

As Kadikoy Municipality, while renovating the nurseries with an exemplary municipal understanding, Turkey's First Ecological Home, Kadikoy Municipality Bahriye Ucok Ecological Kindergarten, was put into service in the 2016-2017 academic year, to implement practices in line with sustainable environment and ecological architecture. Kadikoy Municipality's green nest project aims healthy learning and teaching spaces, energy saving, applied and nature-friendly education in all aspects. Therefore, durable, safe, healthy, comfortable and economical environments were provided for children and educators using the building. All resources such as energy, water, materials, land and capital were used effectively to protect the ecological system during the design, construction, operation, use, maintenance, repair and re-functionalization phases of the building.


Figure 16. Kadikoy Municipality Bahriye Ucok Ecological Kindergarten. Source: https://cocukyuvalari.kadikoy.bel.tr/yuvalarimiz/bahriye-ucok-ekolojik-cocuk-yuvasi

Greenox Residence Project, Istanbul, Turkey

Greenox Residence is planned to transform the building into a living organism, based on the need for green and oxygen of people living in the city centre in Istanbul, which is becoming increasingly concrete. It is based on the consciousness and need that respects nature and uses energy and water resources efficiently.

The façade structure created by metaphorizing the branches of the tree has been transformed into a green shell by forming the main plastic of the building, using the land effectively and moving the connection with the green from the second dimension to the third dimension. The green social roof floor was created by moving the floor area on which the building sits to the upper floor of the building.

900 trees and shrubs to be located on the Greenox facade will rise with 25 thousand 500 plants, and its green building will produce 2 thousand 373 m3 of oxygen per year, and will not only release 250 tons of carbon into the atmosphere per year compared to standard buildings, but also contribute to the economy of its inhabitants with water and energy savings of approximately 40 percent. provide support.

Greenox helps the city and residents breathe with trees and plants, while the oxygen-producing vegetation also absorbs carbon dioxide and dust particles; It provides heat and moisture insulation on the facade of the building. Plants that shed their leaves in winter provide light permeability to interior areas, while in summer they prevent the passage of hot air through their leaves. In Greenox, with less energy, the building is provided to be cooler in the summer and warmer in the winter. The irrigation and fertilization system of the building is fully automated.


Figure 17 & 18. Greenox Residence Project. Source: https://turkeco.com/en/greenox-residence-edge-certification/

The 6th Street and Avenue B Community Garden in Manhattan, New York City, USA

Urban agriculture is characterised by a number of emblematic operations. These include innovative activities such as rooftop market gardens – for example, hydroponic gardens in New York, which contribute to the greenhouse production of plants placed in sponges made of volcanic basalt fibre, using fertiliser and water recycling; or, using more conventional production techniques, the 3.7 hectares of greenery on the roofs of Paris created since the adoption of the city's biodiversity plan in November 2011. Another key type of landmark operation is the green wall (green façades and living walls), which can help reduce noise pollution by acting as an insulator, and even help reduce and absorb air pollution thanks to the micro-organisms present in the soil.

Figure 19. The 6th Street and Avenue B Community Garden in Manhattan, New York City. Source: https://www.facebook.com/6bgarden/

The Secret Garden in the Library of Birmingham, Birmigham, UK

The Library of Birmingham is located in the inner city and can easily be reached by foot, train or bus. The urban appearance and dominance of buildings around the library, does not remind someone of gardens or the possible existence of a community garden on the roof of one of those. The Secret Garden in the Library of Birmingham is located on the library's two terraces and was established in 2013, following the concept by Meccanoo and Birmingham City Council. A group of eleven volunteers, between the age of 21 and 67 years, meets regularly and cares for the plants and facilities. They are responsible for the garden's appearance and shape. The garden's aim is to educate people in environmental issues and try, as a pioneer, cut carbon emissions.

Figure 3. The Secret Garden in the Library of Birmingham. Source: https://www.bbc.co.uk/news/uk-england-birmingham-23863110

Salop Drive Market Garden, West Midlands, UK

Salop Drive Market Garden is a three acre community garden in Sandwell. The garden is located seven kilometres outside of Birmingham City in an area which was characterized by traditional heavy industries (coal etc.). Therefore, the ground is much polluted and it was difficult to grow food in this area. The area was an important allotment garden for workers of the industries. The urban community garden was created by an organisation in 1970.The main aim of this community garden is to educate mostly uneducated people earning little money in food production and healthy diets.

Figure 4. Salop Drive Market Garden. Source: https://www.idealforall.co.uk/Health-and-wellbeing/Our-Gardens

Edible Gardening Project, Edinburgh, UK

The Edible Gardening Project is based at the Royal Botanic Garden Edinburgh and shares horticultural knowledge, skills and enthusiasm for growing food with diverse communities.Our team of community gardeners and dedicated volunteers work hard to keep our productive gardens looking great. They are on hand at our events to provide support and advice to people who are interested in brushing up on basic horticultural skills.

Figure 20. Edible Gardening Project. Source: https://www.afkcharity.org/how-we-help/our-community/edible-garden/

River Garden, Auchincruive, UK

River Garden Auchincruive is a residential community for people in recovery from drug and alcohol addiction. The gardens used to be an agricutural college on the site of an old country estate. The residents are restoring the gardens and building social enterprises while providing peer support for their recovery journeys.

Figure 21. River Garden Auchincruive. Source: https://www.rivergarden.scot/

Nowa Huta & Urbanfarm, Krakow, Poland

The roof garden is a small step towards self-sufficiency of cities, and Nowa Huta was designed as such a space. The garden is a prototype, a starting point for writing new ways of thinking about the city. Eatable Nowa Huta is an experiment on the roof of the House of Utopia. Moreover, Urbanfarm Krakow - pierwsza krakowska farma miejska is the very first Urbanfarm in Cracow governed by ALLIN Foundation with in total 200m2 area.

Figure 22. Urbanfarm Krakow. Source: https://www.facebook.com/krakowskafarmamiejska/

Alsergarten cultural association's garden, Wien, Austria

The garden is centrally located in the city in a large green area - the Danube Canal and is publicly connected to the U4. The Alsergarten cultural association looks after the area and has been continuously designing the community garden since 2020. The garden is open to the public and divided into three parts: kitchen, garden (with raised beds and garden shed) cultural garden (with table tennis table, grandstand (self-planned and built), wild garden (garden with extensive use for more biodiversity).

Figure 23. Alsergarten cultural association's garden. Source: https://schwimmvereindonaukanal.org/Alsergarten-Kultursommer

Turin, Italy

Ortoalto le Fonderie Ozanam is a community roof garden, a pilot project of the OrtiAlti association, built in 2016 on the roof of a restaurant. Products from the garden and the apiary are used in the restaurant's kitchen. The construction of the vegetable garden has favored the triggering of a regeneration process of the complex in which it is located, a former factory in Turin which today has become a community hub.

Figure 24. Ortoalto le Fonderie Ozanam roof garden. Source: https://www.rottasutorino.it/2016/05/inaugurazione-ortoalto-le-fonderie-ozanam.html

100 thousand gardens in Tuscany, Siena, Italy

A young project part of the "100 thousand gardens in Tuscany" network! The crops started in 2019 after the enhancement of an area of spontaneous gardens by the Municipality of Siena with local associations. The project sees the “old” gardeners as protagonists together with young people, families and disadvantaged people. Today the gardens are part of an urban park at the service of citizens. The project is inspired by the principles of permaculture.

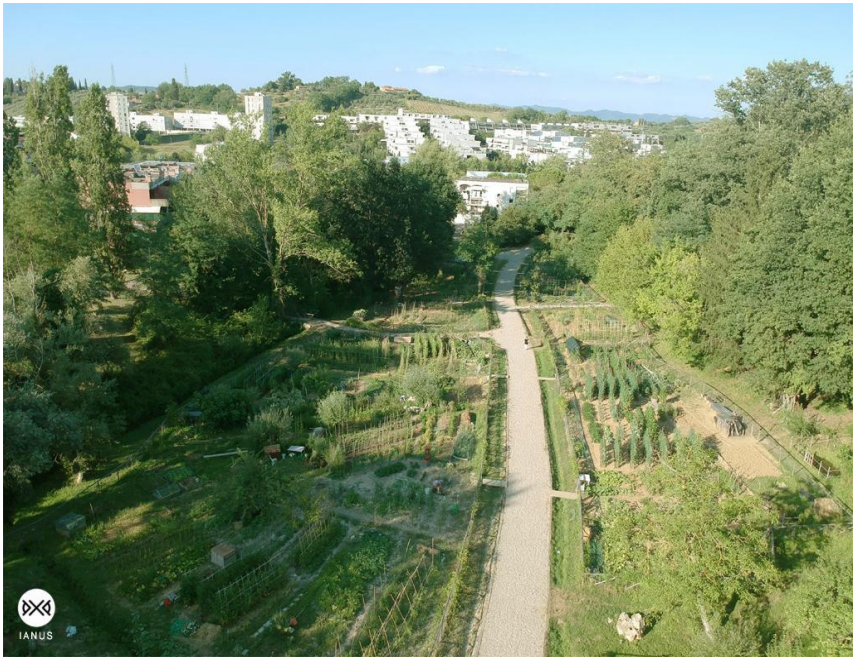


Figure 25. Municipality of Siena gardens. Source: http://www.travelingintuscany.com/gardens

Agra de San Pedro gardens, A Coruna, Spain

Urban gardens located in the traditional Agra de San Pedro, in front of the municipal center of Ágora. Renaturalized space linked to a green corridor and to the water course that allowed the urban development of the city to the West thanks to the collection of water from Fonte dos Monxes to the Paseo de los Puentes aqueduct.

Figure 26. Agra de San Pedro gardens. Source: https://cadenaser.com/2022/02/09/el-concello-de-a-coruna-acometera-mejoras-en-las-huertas-urbanas/

Greenest City in Asia, Singapore

If ever there was an example of need meeting innovation, it's in the urban farm planning of Singapore. With a population density of 19,000 people per acre, it is imperative that space is properly and effectively used. The permaculture orchard on site, planted with fruits, nuts and berries, will enhance soil fertility. Located next to the parish hall of the St. Urbanus church, the orchard will also increase availability of pollinator flora. The most recent addition is Sky Greens, a collection of 120 30-foot towers that opened in late 2012 using a method called “A-Go-Gro Vertical Farming,” which resembles a sort of vegetable-stuffed Ferris wheel, and is designed for leafy greens like spinach and bok choy. Sky Greens is Singapore’s first vertical farm, located in Kranji, 14 miles from Singapore’s central business district, with bus service available every 75 minutes.

Figure 27. Sky Gardens, Singapore. Source: https://www.nytimes.com/2013/07/14/travel/green-acres-by-singapores-skyscrapers.html

Strengthening Urban and Peri-urban Agriculture and Food Security, Tegucigalpa, Honduras

Tegucigalpa is the capital of one of the poorest countries of the world. The district mayor's office launched the "Pilot Project for Strengthening Urban and Peri-urban Agriculture and Food Security" in the Central District in 2009. The US$480,000 project consisted of establishing and maintaining household gardens in four settlements in the East of the city, with the immediate goal of increasing the consumption of fruits and vegetables, and the ultimate goal of contributing to food security of people living in extreme poverty. Its guiding approach was to teach low-cost and locally-adapted gardening techniques and technologies that were easy to implement and maintain. The project, which ended in 2011, trained 1,200 people and affected 6,000 people overall. Beyond gardening skills, participants were also taught on food security, nutrition, and vegetables preparation.

Figure 28. Urban Gardens in Honduras. Source: https://journals.openedition.org/factsreports/5610

Michigan Urban Farming Initiative, Detroit, USA

Once the epicentre of a booming automotive industry, Detroit has lost over half of its population since the 1950s. Today, abandoned properties are abundant. These can become a blight on a city, but several groups are seeking to turn these parcels into productive growing regions. Michigan Urban Farming Initiative (MUFI) is one of these groups and has provided a model on how to turn abandoned spaces into productive land. They transformed 3 acres of desolate land into a large-scale, fully productive urban farm that supplies free produce to folks within a 2-mile radius. This is perfect for Detroit as large, post-industrial cities tend to lack easy access to fresh produce. The MUFI have done a lot of good on this hyper-local level. Most of the 50,000 lbs of food produced since 2011 has been distributed locally to 200 homes as well as five markets slightly further afield (within five miles). The rest is shipped to restaurants in the region as well as local food pantries.

Figure 29. Source: https://www.yesmagazine.org/social-justice/2019/11/05/food-community-detroit-garden-agriculture

9. Limits of a shared garden

Lack of attendance by members

A common problem in a shared garden is the poor distribution of tasks among the members. Indeed, some will devote a lot of time to the cultivation of the garden while others will give a few minutes every month and will be the first to ask for the harvest. In addition, holidays can be a source of poor maintenance of the garden as members are away and no one takes care of the cultivated species, leaving them abandoned.

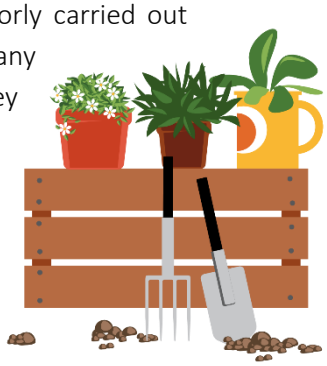
Sometimes a vegetable garden referent is there to avoid these problems but this is not always the case depending on the shared garden. Moreover, the referents are often affiliated with several shared gardens, which considerably reduces their availability.

Difficulties of collaboration

As each gardener has his or her way of doing things, it is sometimes difficult to collaborate in a shared garden. Indeed, when one will have a specific practice to grow tomatoes and another member thinks he has the miracle trick, conflicts may arise.

Lack of knowledge

Finally, the members of the garden are often very willing and eager to learn, but sometimes the plants do not grow, or the gardening techniques are poorly carried out because of a lack of knowledge about the species cultivated. Many people would like to have a vegetable garden but feel that they do not have a "green thumb".



Finally, there are now possibilities to benefit from personalised guidance according to the plants people grow and the climate.

Different mobile applications show step-by-step the tasks to be carried out according to the species and guide the users on the steps to be taken through video tutorials. In consequence, there are less chance of making a mistake and no more reason not to grow.

10. Tips for starting an urban garden

Although growing plants requires care and affection, luckily they only require three basic requirements light, soil and water. The plants do not even need to be planted in the ground, most actually grow great in a container!

Plants can be grown on the roof (with permission of course). They can also be grown in window boxes, patios, as well as on balconies in hanging baskets.

Sunlight is crucial. Find a place where the plant has access to at least 6-8 hours of sunlight a day.

Soil depth is key. Shallow-rooted plants require at least 15 cm of soil depth if they are under 30 cm tall. Deeper-rooted plants need at least 30 cm of soil depth.

Drainage is important so that the plants don't get root rot. Make sure that your chosen pot has drainage holes.

Soil content is vital. Potting soil is lighter and drains excess water better than regular ground soil.

Remember to water your garden! It is important that you soak the entire container each time you water. It is also important to ensure that you do not overwater. Dump out any excess water in the saucer under the plant to prevent root rot.

11. Some good plants to consider growing in your urban garden

Green onions

Tomatoes

Herbs

Summer squash

Salad greens

Peppers

Beans

Root vegetables
(radishes, carrots etc)

12. How to incorporate all of the acquired knowledge through gardening

Everything we have discussed in the previous pages can be utilized in some way in an urban garden. All of the advice we have given in terms of personal and societal improvements (regarding water, food, energy and material consumption) can be shared with a community in a gardening workshop. This can be done for each topic separately or all together, depending on the people who are participating. Giving out pamphlets with the above-mentioned information when making or maintaining a garden, developing games in an urban garden environment and sharing environmental ideas while in this space are all great ways of spreading this knowledge. Not only that but by making sure your community knows and follows these ideas as much as possible, you can start working on making even bigger changes together. Teaching each other this and similar advice helps the people in a community build stronger relationships with each other and opens the door for innovative methods to combat the environmental footprint that each of us has. One of the main ideas behind an urban garden is that it is a space in which a community can gather and focus on bettering their environmental habits both as individuals and as a whole. This is why we believe that all of these tips and tricks can be shared with the people living in the same neighbourhoods, thus making a positive change in their respective location. Creating and taking care of such a space in a social group also helps with building communal spirit, which is in turn a source of motivation to truly maintain the environmental habits described above.

Promoting sustainable agriculture and an active outlook on how we can influence the environment through our actions are goals, achieved much more easily in a space that shows this environment and all the potential it has. Not only that, the act of planting and taking care of such a garden itself is proven to have a positive effect on individual mental health and community spirit. These places can also promote better physical health - the act of making such a garden, keeping it in good condition and even creating exercise equipment with eco-friendly materials all promote physical activity.

On a further note, nature has an innate calming effect on the human mind, meaning that having such an urban garden helps decrease stress and boost happiness for everyone who is a part of maintaining it and enjoying the space itself. With all of these benefits it's easy to agree that providing a community with such a space will have a massive positive influence for everyone involved. This is why we strive to encourage those reading this to try and make their own urban gardens.

These community green spaces underline the need for city dwellers to return to nature. Gardens take many forms with objectives that can be social, educational or cultural:

- It is a way to get closer to nature in accordance with environmentalist values
- Spaces for social mixing where conviviality and exchanges abound
- Places that promote the integration of people in difficulty or with disabilities into the social fabric
- A way of improving one's living environment (for people living in flats and having little green space at their disposal)
- A place to animate the neighbourhood, to hold cultural events and open-air parties
- The possibility to grow vegetables, fruits and herbs at low cost
- An opportunity to get active and exercise outdoors by devoting a few hours a week to gardening and maintaining the garden plot
- An opportunity to share and exchange harvested produce with others
- Opportunities to raise awareness and educate people about respect for the environment, through techniques such as composting, organic gardening, rainwater harvesting, medicinal plant care, etc.

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