

Plastic, plants and perspectives

By Marianne Mikkelsen, published in Journal of Practical Ecology 2023

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On asphalt and tiles, where city and buildings have displaced soil and plants, plastic can give way to life. Project Garden to Connect has turned bits of PVC pipes into urban flowerpots and created sustainable urban gardens that connect people with both land and each other.

For all of us who live in the city, it makes a world of difference with even the slightest bit of greenery in the grey landscape. Especially if you neither own nor have access to cultivate land, a small city garden can be a bit of a revelation. There are plenty of ways to make urban gardens and raised beds on, and with PVC pipes waste, it is cheap, sustainable and incredibly flexible.

PLASTIC AS A RAISED BED MATERIAL

Plastic is an easy and practical material to plant in: it weighs very little, it is easy to saw in the desired lengths, it does not get any sharp edges, it can withstand both frost and impact, it holds well on the water, and then it is in principle completely free. Whether you like the sight of it or not, of course, is a matter of taste – just like the use of wood, steel, ceramics, etc.

On any construction site you will see bits of orange plastic pipes. Offcuts are made when, for example, sewers are laid. Most construction sites are happy to get rid of their remnants of pipes, and on the local recycling stations you are also often allowed to pick up pipes when you just ask for permission. PVC (polyvinyl chloride) is one of the kinds of plastic most used in construction, and about a third of PVC construction waste is being recycled. By reusing the pipes for gardens, in the form they already have, we save energy and resources to collect and melting the pipes into new pipes.

PVC pipes are not created for daylight, so they are bleached by sun, but they retain their strength. The slightly darker pipes made of PE retain the dark orange color – even in full sun – as do the waterworks' blue pipes made of PE (polyethylene). You can ask an employee at the construction site or recycling center for help. Plastic pipes are so easy to transport. You can fit one entire garden in a cargo bike.

HIGH FLEXIBILITY

If you have created a small urban garden out of plastic pipes in a public area, it is a huge advantage to be able to move the gardens again. After just a month of growth, the roots hold on to the soil so well in the pipes that you can tip them, push a plate under and lift or drive the garden to a new location. It also makes it easy to test and develop the layout of a garden – without disturbing the plants.

When more people join or the community diminishes, you can add or remove pipes to fit the garden to those who use it. And will you have to put down your garden, then you just hand over the pipes at the recycling center so that they can be recycled into new pipes.

As in other raised beds, the height of the pipes protects against trampling feet – This can be especially important in childcare centers.

GARDEN TO CONNECT CONNECTS PEOPLE AND PLANTS

In Aarhus, we have been making gardens in PVC pipes for several years. We call it *Garden to Connect* and the project is supported by The Danish PVC Information Council and their European cooperation organization VinylPlus. Betina Ringby and Marianne Mikkelsen runs the project and collaborates with the many different people who have participated in the different activities. It gives air under the wings to have money, connections and support.

Among other places, we have established gardens in nurseries, kindergartens, schools, nursing homes, festivals, health centers and libraries, parks and community gardens. We have planted with both small children and elderly people with dementia, where overview and ability to concentrate are limited.

Since 2022, we've also created gardens in Rwanda in and around the capital Kigali. In a slum area the Indaro Center is situated, which is a drop-in center for children of parents with limited resources. Here they have used the gardens as learning spaces and a place where the children could get a break from an everyday life where they otherwise often must take responsibility as small adults. Vegetables have been an important supplement to a one-sided diet and counteract malnutrition They were very hard hit by COVID-19 lockdowns but have now learned that they can grow food for themselves and the other younger children in the center. Gardens also gave rise to talk about the environment and creating a culture, where no one throws garbage around the gardens anymore. Plastic pipes ability to retain moisture is particularly valuable here because it is hard creating gardens in Rwanda has sharpened our understanding for how collaboration on plants can be included in the work with SDGs – external as well as internal. The five inner goals: to be, thinking, relating, collaborating and acting are described as prerequisites for being able to work for the 17 external world goals. is about reducing poverty, hunger and inequality, protecting life on land and create sustainable cities and communities work to fetch water in the nearest river.

THE COMMUNITIES GROW

As a gardener and nature guide, I am to begin with very concerned with what grows inside the pipes: edible plants, beautiful plants, funny plants and plants with great stories. But outside the pipes and around any small plant, there is also growth in form of new friendships. For the past many years, I have mainly cultivated gardens outside the hedge, namely in garden communities and community gardens-

When people meet outdoors around an urban garden, there is opportunities for conversations, connections and communities. The outdoor meeting places around something common third, namely living green plants, provide space and opportunities for human growth in communities. And yes, it sounds solemn. It is also for our human well-being and ability to both meet and make room for each other's differences are as important as the fight for climate and biodiversity. If we don't live lives that bring joy, then we have neither good reason nor energy to keep life alive.

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