

Container Gardens in Schools



Container gardens refer to the cultivation of plants in containers rather than planting them directly in the ground. These containers can be pots, tubs, boxes, baskets, barrels, or any other vessel that can hold soil and plants.

Container gardens, while primarily used for their versatility and space efficiency, can also contribute to mitigating some of the impacts of climate change, albeit on a smaller scale. They won't solve the global climate crisis, they are a step in the right direction. When combined with other sustainable practices and scaled up, they can be part of a broader strategy to address climate change impacts.



Integration with international agreements

SDG 6, 11, 13



Duration

2-5 days depending on the number of containers and the size of the area.



Place of Implementation

- **Versatility:** Container gardens are versatile and can be placed indoors or outdoors. They can be used on patios, balconies, rooftops, or even inside homes and offices.
- **Space-Efficient:** They are ideal for places with limited space, such as urban apartments or homes without large yard spaces.
- **Mobility:** Plants in containers can be easily moved. This is beneficial for adjusting to sunlight requirements or protecting plants from adverse weather conditions.



Threats Addressed



Heavy
Rainfall



Changes in rainfall
patterns



Drought

Social, eco-systemic and economic benefits

- **Carbon Sequestration:** Plants absorb carbon dioxide (CO₂) during photosynthesis, which helps reduce the overall CO₂ levels in the atmosphere. Reduced transportation needs of external food items can also lead to a decrease in carbon emissions associated with transport.
- **Biodiversity Support:** Container gardens can support biodiversity by providing food or habitats for various insects, especially pollinators like bees and butterflies. This can be particularly impactful in urban areas where natural habitats are limited.
- **Reduced Soil Degradation:** Container gardening can reduce the pressure on land for agricultural purposes, leading to less soil degradation and deforestation.
- **Improved Air Quality:** Plants in container gardens can absorb pollutants and particulate matter, improving air quality. This is especially beneficial in urban settings with higher pollution levels.



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Main Climate Impacts & Threats Addressed



Increased temperatures:
Container gardens can assist with the mitigation of Urban Heat

Island effect. Urban areas often experience higher temperatures than their rural surroundings due to human activities and the prevalence of concrete and asphalt. Container gardens, especially when used extensively on patios, rooftops, and balconies, can help reduce the urban heat island effect by through the cooling effect of evapotranspiration.



Flooding: Containers gardens can support storm water

management: If implemented at a wide scale, container gardens can contribute to stormwater management. When it rains, the soil in the containers absorbs water, reducing the immediate runoff that can lead to erosion and flooding. Additionally, using containers with saucers can further reduce water wastage.



Biodiversity loss: Container gardens can assist in managing phenological changes; containers make it easier to grow seasonal plants and adapt to a changing climate. Almost any plant can be grown in a container, from flowers and herbs to vegetables and small trees: plants can be replaced to face seasons' increased variability.

Implementation

1 Installation

Materials Required:

- Containers (pots, raised beds, or repurposed items)
- Soil (potting mix or garden soil)
- Seeds or seedlings (vegetables, herbs, or flowers)
- Watering cans or hose
- Gardening tools (trowel, gloves, etc.)
- Mulch (optional)
- Fertilizer (organic or inorganic)
- Labels and markers

2 Procedure

Site Selection:

- Choose a location that receives at least 6-8 hours of sunlight daily.
- Ensure the site is easily accessible for students and staff.
- Consider proximity to a water source.

Container Selection:

- Choose containers with adequate drainage holes.
- Ensure containers are of appropriate size for the chosen plants.
- Repurpose old items like buckets, tubs, or wooden crates to promote recycling.

Soil Preparation:

- Fill containers with a good quality potting mix or garden soil.
- Ensure the soil is loose and well-draining.
- Mix in compost or organic matter to enrich the soil.
- By using potting mix or soil specifically for containers, ensure the right soil selection for each plant. This is especially useful in areas with poor or contaminated ground soil

Planting:

- Follow seed packet or seedling instructions for planting depth and spacing.
- Water thoroughly after planting.
- Label each container with the plant name and date of planting.



References

Kasper, Carol, and Jen Matlack. Container Gardening: 250 Design Ideas & Step-by-Step Techniques. Taunton Press, 2009.

"Home: Urban and Peri-Urban Agriculture: Food and Agriculture Organization of the United Nations." UPA, 2022, www.fao.org/urban-peri-urban-agriculture/en/.

Nettle, Claire. Community Gardening as Social Action. Routledge, 2020.

Maintenance:

- Water plants regularly, ensuring the soil remains moist but not waterlogged.
- Monitor plants for pests and diseases. Use organic pest control methods when necessary.
- Fertilize plants as per their requirements.
- Mulch the soil surface to retain moisture and prevent weed growth.

Educational Integration:

- Integrate the garden into the school curriculum, and community trainings. Use it for lessons in biology, ecology, nutrition, and more.
- Organize gardening workshops for students/persons to learn about plant care, composting, and sustainable practices.
- Encourage students/persons to maintain a garden journal, documenting their observations and learnings.

Safety Precautions:

- Ensure students and other school personnel wear gloves while handling soil and plants.
- Store gardening tools in a safe and secure location.
- Supervise younger students during gardening activities.
- Avoid using toxic pesticides or chemicals.

Monitoring and Evaluation:

- Regularly assess the health and growth of plants.
- Document any challenges faced, and solutions implemented.
- Evaluate the impact of the garden on students' learning and well-being.

Indicators

Implementation

Number of Containerized Gardens Installed

Number of direct beneficiaries

Yield of fruit/vegetable plants planted per hectare, per annum;

Savings in the cost of fruits/vegetables used in the school for school/ community feeding program,

Quantitative

Percentage of schools/ locations who have applied targeted improved NbS practices or technologies in container gardens

Qualitative

Level of participation of students in NbS training /knowledge building activities within Jamaica 4H Clubs schools (% of which females)



Costs and inputs

School Container Gardens	Cost in USD
Size of containers: 55 gallon barrel cut in half	980.40
# of containers : 24 containers	
Labour: 2 persons	
10 days across 3 months (240 hours)	
Equipment & Tools	2287.57
Total	3267.97