



GUAM ENABLED GARDENING: ADAPTIVE GARDENING SERIES *Adaptations and Considerations for Enabled Gardens*

Lianna Santos, Undergraduate Student, University of Guam, BUILD EXITO Scholar
Phoebe Wall, Extension Associate III, University of Guam, College of Natural & Applied Sciences, Cooperative Extension & Outreach

In the U.S. today, gardening is considered a favorite outdoor activity aside from playing golf or jogging. Approximately 75% of U.S. households, whether novice or experienced, participate in some gardening activity.

Gardening is not only a recreational activity. It can also help one's physical and mental well-being for all ages. For instance, people affected by health conditions that limit mobility can benefit from increased physical activity. Gardening can have a positive impact on one's mental health. For example, through the activity of nurturing plants to bear vegetables, fruits, or flowers one can experience the product of the effort. Also, decreased stress and increased sense of well-being are reported as benefits of gardening activities.

However, there are barriers for those who experience physical and mental limitations. For example, people who experience arthritis may be challenged due to joint pain from bending or stooping to tend to the garden. An enabled garden allows an individual with specific challenges to participate. This series of fact sheets explains gardening methods, technique adaptations, and how to create enabled gardens specific to Guam.*

People with limited mobility or endurance can benefit from garden activities by engaging in moderate exercise and strengthening motor skills. When planning the garden, consider any limitations experienced by a gardener and make necessary adaptations.

- Enabled garden design
 - Refer to Site Selection (see Fact sheet #1) for location based on plant growth requirements.
 - Ask for assistance, as necessary, to construct an enabled garden.
- General considerations
 - Raised beds, waist-high gardens, and container gardens can be used in enabled gardens

- **Pathways:**
 - Minimum width of 3 feet.
 - Turnaround area should be a minimum of 6 feet x 6 feet to accommodate wheelchairs.
 - Width of 60 inches to accommodate a wheelchair turn of 360 degrees.
 - For raised beds, 3 feet to 6 feet in width.
 - Avoid curvy designs.
 - Use materials, such as concrete, for path surface.
 - Surfaces should be level, non-slip, and made from non-porous materials, as well as a slope of 2% for water drainage.
 - Place containers that allow safe use of pathways.
- **Ramps:** Based on Americans with Disabilities Act (ADA) guidelines,
 - Ramp slope should not exceed 5%.
 - For every inch of vertical rise, there must be 12 to 20 horizontal inches of ramp.



- **Elevated raised bed garden:** Determine design before construction of a bed based on an individual's physical abilities.
 - Face-on approach in a wheelchair
To determine the bottom of the planting bed, measure from the surface area to one inch above the individual's knees to allow for legroom under the bed.
 - Side-on approach
Height: Adjustments should be made based on 6 increments in height.

* The references used for the Introduction of each fact sheet in the Guam Enabled Gardening: Adaptive Gardening Series is listed in the Bibliography of Site Selection.

- **Container garden**
 - Containers should be stable so not to tip over.
 - Tool sheds should be at least 48 inches wide to accommodate wheelchair access.

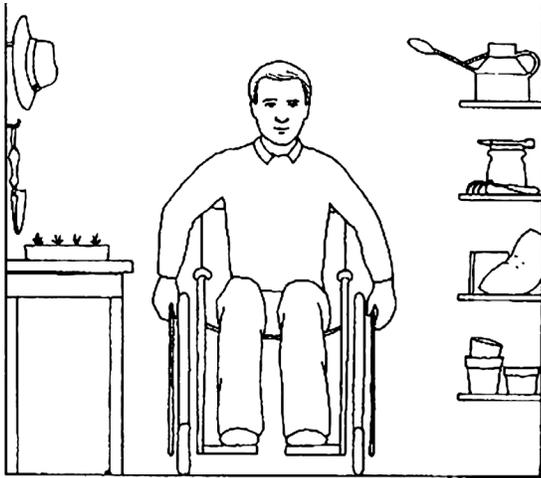


Photo: Washington State University Spokane County Extension

- Lightweight gates and doors should move easily and be wide enough for wheelchair access (48 inches).
- Handrails and grip bars can be added for support, especially for those who have low endurance and are prone to fatigue.

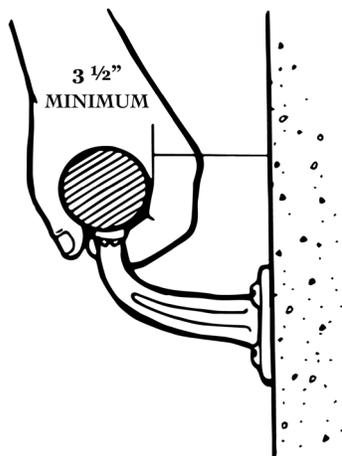


Photo: Washington State University Spokane County Extension

- **Other considerations**
 - Individuals should dress appropriately to protect themselves from the sun and scrapes.
 - Reduce the possibility of falls by placing stools around garden site and clear pathways of obstacles.

- Rest areas can be incorporated into the garden design. Use a shaded location with benches, chairs, or a flat surface for wheelchairs.

Bibliography:

Americans with Disabilities Act Ramp Slope. (2019). <https://www.handiramp.com/ada-guidelines/ada-ramp-slope.htm>.

DiNardo, M.F., & Flagler, J. (2005). *Fact sheet: Gardening With Seniors.* Rutgers, The State University of New Jersey. Rutgers Cooperative Research & Extension, FS023. file:///C:/Users/Lenovo%20Carbon%20X1/Downloads/fs023.pdf.

Jewell, M., & Powell, J. (1992). *Making Gardening Easier: Gardening Hints for People with Arthritis.* Oregon State University Extension Service, EM 8499. file:///C:/Users/Lenovo%20Carbon%20X1/Downloads/em8499.pdf.

Turner, P., Fox, L., & Parkhurst, J.A. (2013). *Therapeutic Gardening.* Virginia Polytechnic Institute and State University, Virginia Cooperative Extension, HORT-66NP. <https://vtechworks.lib.vt.edu/bitstream/handle/10919/48288/HORT-66-PDF.pdf?sequence=1&isAllowed=y>.

Weigel, R., & Hampton, C.N. (2012). *Solutions for Living: Tools for the Enabled Garden.* Wyoming AgrAbility, University of Wyoming Extension, B-1238. <http://www.wyomingextension.org/agpubs/pubs/B1238.pdf>.

WSU Master Gardeners. (2015). *Gardening for Life: A Guide to Garden Adaptations for Gardeners of All Ages and Abilities.* Available from Washington State University Spokane County Extension. <https://s3.wp.wsu.edu/uploads/sites/2079/2015/12/GFL-booklet-complete.pdf>.