GO UP THE WALL WITH HANGING GARDENS

We specialise in the design and installation of green walls and green facades for commercial and residential properties and public spaces. Vertical gardens are used as focal points, screens and living skins in buildings, homes and public spaces to beautify and green up urban areas.
WHY DO WE NEED GARDENS FOR HEALTH CARE?

The cumulative body of evidence from over a decade of research on the people-nature relationship provides an unequivocal answer: contact with vegetation, in a variety of circumstances, is highly beneficial to human health and well being.

Biophilic Design

Biophilia is a term popularized by Harvard University conservationist E.O. Wilson to describe the extent to which humans are hard-wired to need connection with nature and other forms of life. Research shows the emotional and psychological benefits of nature is mounting and can result in:

- Reduced stress
- Improved recovery from illness
- Enhancement of cognitive skills and academic performance
- Assistance in moderating the effects of ADHD, autism and other child illnesses

All these values are in addition to the immense economic value of the ecological services provided by natural systems.

The Theory, Science and Practice of Bringing Buildings to Life (Kellert, Heewagen, Mador, 2003) shows that people in spaces with vegetation are more likely to experience the following outcomes:

- Psychological and physiological stress reduction
- More positively toned moods
- Increased ability to re-focus attention
- Mental restoration and reduced mental fatigue
Improved performance on cognitive tasks

General Health and Wellbeing

The Director of the International Laboratory of Plant Neurobiology in Italy has the following to say. “The benefits plants bring by producing oxygen, absorbing carbon dioxide and pollutants, and moderating climate have been known for a long time. But other ways plants can affect our well-being have been studied only recently and the findings are remarkable: the presence of plants has been reported to reduce stress, increase attention and speed recovery from illness.

Simply seeing plants can induce calm and relaxation, as can be shown by measuring physiological parameters. The effects of the presence of plants on babies and children have been studied from a number of different perspectives and the results of the first studies are striking. One study in Illinois, that looked at student performance in tests which required some concentration, had clearly better results from those students who had windows that looked out over green areas, than for students with views of buildings. Even more than university students, elementary school children show improved attention capacity in the presence of plants.”

Other studies show that streets lined with trees have fewer accidents, there are fewer suicides and fewer violent crimes in neighbourhoods with plenty of green spaces.

In short, plants positively influence our mood, concentration, learning and general well-being. No-one yet quite knows why plants have this remarkable effect on us, but one thing is clear, the more plants we have around us, the healthier we become.
Reduced Pain Perceptions in Health Care Settings

Hospital patients with windows looking out on plants have less need for painkillers and are discharged sooner than patients with views of buildings or empty lots. A study by Ulrich (1984) found that patients recovering from surgery, with views of a garden, got home nearly two days earlier than those who looked onto a wall or lift-well. Patients also used lower levels of painkillers.

This is why, for essentially economic reasons, many new hospitals now have space (sometimes an entire floor) devoted to plants, where patients can spend their time.

Depression

Australian studies on the benefits of greening up urban areas claim: “With all these health benefits, parks have an enormous potential to reduce Australian healthcare costs. Depression alone costs Australia more than $12.6 billion each
year, as well as the massive human cost. If visiting parks can help reduce depression by even one percent, that is a huge gain for Australia.”

A US study found that stress levels were reduced for children through high levels of nature close to their homes compared to those with little nearby nature. The same US study found that children with higher levels of nearby nature had a higher sense of self-worth. High self-worth in children makes them more resilient during life’s stressful times.

Children with ADHD and ADD concentrate, complete tasks and follow directions better after they play outside in green settings. The greener the setting, the more improvement they show.

Neuroscience and Architecture

It may come as no surprise to some that the feel-good chemical - dopamine - is release in the brain when anticipating a reward or achievement and not when the goal is actually achieved. In other words, it is the journey that is important, not the goal.

Recent studies of the brain are revealing some very interesting facts about how the health of the brain correlates directly to the health of humans and how the built environment can affect brain health in very significant ways. For example, stress is a major cause of poor brain health and functioning, and increases in stress levels result directly in decreases in the immune system, cognitive ability and well being.

Richard Louv is a journalist, co-founder and Chairman Emeritus of the Children & Nature Network, an organization helping build the international movement to connect people and communities to the natural world. Louv’s view is that the advent of new technologies has made it possible to map the psychological effects of architectural and urban design in unprecedented detail.

His findings suggest that physical variables in our surroundings, including facade design, the presence of urban greenscape, and urban geometry, produce
predictable effects on our minds, brains, and bodies. Louv suggests that the consideration of psychological sustainability in urban design is practical, achievable, and an essential ingredient of public health.

An aging global population makes this research increasingly urgent. For instance, one in four people will have cognitive impairment by 2050. Research by the architect and cognitive scientist, Laura Malinin and her colleagues at Colorado State University, has shown an “enriched environment” with “novelty, challenge, and engagement,” helps improve cognitive health. Their research suggests that older people benefit from walkable communities rather than the auto-dependent locations where much senior housing has been built; and, contrary to the institutional quality of some of these facilities, seniors require stimulating environments.

Air Quality and Pollution

Other studies have also found that plants can positively influence air quality. For instance, a 1989 study assessed the use of plants to remove formaldehyde and zylene from the air in test chamber studies. This research was prompted by an EPA study that found high levels of these chemicals in newly constructed office buildings in the 1990’s. The researchers found that plants were effective in continuously removing the chemicals from the air. Both the plant leaves and the microorganisms in the soil contributed to the improved air quality.

The Auckland Council estimates the social cost from air pollution in the city to be $1.07 billion while studies show that in city streets bounded by buildings, careful placement of plants can reduce concentrations of nitrogen dioxide by up to 40 percent and of microscopic particulate matter by up to 60 percent. Whichever way you look at them, plants and living walls are good for us and good for the environment!
Dementia Gardens

Recent statistics cited by Alzheimer’s Australia show that there are more than 353,800 Australians currently living with dementia, with that number expected to increase to over 400,000 over the next five years. Whilst there are 25,100 individuals in Australia with Younger Onset Dementia, the overwhelming number of suffers are older Australians aged over 65. In this age bracket, dementia is the single greatest cause of disability and, sadly, there is no cure or effective medical treatment for the disease.

According to Kaplan (1995), nature is restorative and has healing powers. This is true for both those afflicted by dementia, but also for well individuals who seek to escape the pressures of everyday life by interacting with nature.

Dementia gardens are increasingly being used in aged-care facilities where the goal is to create a well-designed environment with good medical and social management, in order to reduce symptoms and ease the burdens on family members or caregivers.

Research indicates that physical and visual access to nature can have the following positive impacts in individuals with and without dementia:

- Helps people recover from illness quicker
- Reduces stress and lowers blood pressure
- Helps a person maintain circadian rhythms
- Aids in the natural absorption of vitamin D when exposed to sunlight for brief periods of time, which is important for maintaining strong bones.

Gardens and outdoor environments are being increasingly reintroduced as important support tools in the care, management and contribute to the quality of life of people with dementia. Some of the benefits to dementia sufferers include:

- Enjoyable form of exercise
- Increases levels of activity and maintains mobility and flexibility
- Encourages use of motor skills – walking, reaching, bending, planting seeds and taking cuttings
- Improves endurance and strength
- Helps prevent diseases such as osteoporosis
- Reduces stress levels and promotes relaxation
• Provides stimulation and interest in nature and the outdoors
• Improves the sense of wellbeing due to increased social interaction.

Indoor Plants
A Norwegian study from 1995-96 on the effects of indoor plants on health and discomfort symptoms provides the best evidence for the health benefits of plants. The research team studied 60 office workers whom each experienced a plant and no plant condition. In the first year of the study, half of the subjects had a planter installed on their window sill and a large floor plant near their desks, while the other subjects experienced their standard office conditions without plants.

The results showed that:
• Neuropsychological symptoms were reduced by 23% when plants were present.
• Fatigue reduced the most – by 30%
• Mucous membrane symptoms were reduced by 24% overall when plants were present. Cough decreased by 37% and dry throat by 25%
• Dry or flushed skin was reduced by 23% with plants in the workspace

The researchers suggest that health improvements were likely due to two mechanisms: improved air quality and the psychological value of being in a more pleasing environment.

It has been proven that vertical gardens and greenery in urban settings reduce human stress and so it is no surprise that vertical gardens are on the rise. Reconnecting with nature is beneficial not only to the ageing population but is particularly beneficial to young people.

Let’s help our future generations and provide stimulating, walkable, community environments, where the journey as well as the destination, fosters wellbeing for all humanity.
Mitigating the effects of urban heat islands through increased tree canopy and vegetation, for example, is necessary to avoid heat-related public health issues and the economic implications of increased energy use,”