

RESILIENT LANDSCAPING by Marijke Honig

1. How has climate change affected weather patterns in SA?

The weather patterns are more unpredictable and extreme, for example, there are prolonged dry seasons, then flooding. We also experience wild swings from day to day - in Cape Town we had hot, humid conditions and lightning in October followed by weeks of unusually cool weather, followed by a 40 degree C heat wave. And snow in mid-November in the W Cape! The winters are becoming milder, which is an issue because fruit trees need a period of dormancy (rest) in order to produce well.

2. How can we respond to changing weather patterns in the way we manage our gardens?

We can respond by creating **resilient landscapes** and gardens that can adapt to changing weather patterns and bounce back after extreme events. Instead of spending a lot of effort on maintaining your garden with regular watering, fertilisers, ongoing weeding and pruning you can opt for plants that survive with least human input. Instead of working against nature and forcing a static state, allow natural ecosystem functions to take place - for example, allow fallen leaves and branches to decay on the ground, thereby mulching the soil and releasing nutrients through the natural process of decomposition.

How do we build resilient landscapes?

- Create structure in the design: 'good bones' using hardscape elements and hardy, long-lived evergreens.
- Create flexibility in the design and relax control: allow plants to migrate and 'find' their own place in the landscape - these will be the areas (habitats) most suited to them.
- Do not pamper plants with irrigation & fertiliser - challenge them to survive on natural rainfall.
- Maximise infiltration of rainfall to recharge the soil and create an underground moisture reserve
- Create a closed system for your garden with no outputs (garden refuse) or inputs (fertiliser, compost, water, plants) - allow natural cycles to take place.
- Select plants not on aesthetics or emotional attachment; opt for plants that can survive drought tolerate a wide range of conditions and rapid recovery after a major disturbance such as drought, fire or flooding. When resilience is the main criterion, weedy and self-seeded plants are not a problem but an asset: they contribute to the long-term sustainability of the landscape.

An intelligent adaptive response to changing weather patterns requires changes in the **way we see** and what we **do**. Perhaps the biggest challenge is that we have to undo old habits (feeding, watering, pruning) and do less. No more digging (which upsets soil microorganisms and disturbs roots), no feeding, no raking of leaves, no spraying for pests - it requires a much lighter touch and an attunement to natural processes. One can learn a lot by observing plant communities growing on unirrigated road verges and natural areas – these are usually resilient and self-sustaining.

3. Some practical tips to create resilience

- Set yourself the challenge: zero stormwater runoff from your property. This can be achieved by capturing and storing rainwater from roofs and air conditioners and ensuring that all water runoff from paved areas goes directly into the soil. Avoid hard surfaces and choose permeable options instead (e.g. planted and mulched areas). If you need a hard, durable surface consider materials such as stone chip or peach pips - these can be stabilised with a plastic honeycomb-like product called Gravelfix, or permeable paving.
- Consider your garden as a giant underground reservoir or sponge, and do whatever you can to maximise the infiltration of water. Find out about rainwater harvesting and how to 'plant the rain'. For more detail visit Brad Lancaster's website <https://www.harvestingrainwater.com>. Ensure you have carefully planned overflow systems to handle downpours and prevent flooding.
- Zone your garden into water-use zones, with a small high water-use area close to the house (e.g. pots or plantings seen from living area) and a large area allocated to a low or no water-use zone, using plants that can survive on natural rainfall.
- Select plants for resilience: their ability to tolerate a wide range of conditions and bounce back after an extreme event
- Use trees and large shrubs for creating shade, screening and privacy. Instead of building boundary walls, plant mixed hedges of indigenous plants - you will enjoy masses of greenery, foliage textures and flowers and create wonderful habitat for birds, bees and other wildlife.
- One cannot manage a resource effectively unless it is measured. If you have a borehole, **install a water meter** so that you can monitor water usage and detect leaks when they arise. Smart meters offer the convenience of real-time data on a handheld device in your home. When watering **water deeply and infrequently**. Mimic a good rainfall event of say 50mm and really saturate an area, with water penetrating at least 50-60cm into the soil, and you may only need to do this every 3 to 4 weeks.

4. How can resilient landscaping save you money?

- By 'planting the rain' instead of letting it run off your property, and by choosing appropriate plants, you can enjoy a lush garden teeming with life with minimal input. Creating a garden that is sustained by rainfall alone, saves the cost of an irrigation system, rainwater tanks, pumps, the electrical running costs and saves you the trouble of ongoing maintenance.
- Strategically planted trees can offer seasonal shade and save the capital investment and running cost of air-conditioning.
- Wicking beds are a water-efficient way to grow veggies and have ongoing access to fresh salad leaves, spinach, herbs and tomatoes, to name a few of the easiest ones to grow.
- Resilient gardens and landscapes make a valuable contribution to the urban ecosystem, making our cities livable, sustainable and a pleasure to be in.