

## The Future of Landscaping: Understanding and Embracing Resilience

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### Abstract

With climate change and dwindling water resources, **resilience** is the new criterion for plants and landscapes. Resilience not only to physical events (drought, storm winds, flooding), but also to human disturbances such as bark stripping, trampling.

We need to identify suitable plants that can adapt to a changing climate and bounce back after an extreme event. They may be indigenous or exotic. Need to find suitable combinations of plants – plant mixes – that require minimal maintenance.

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### INTRODUCTION

What changes can we expect with climate?  
Weather patterns will become more unpredictable and extreme.

How can we respond?

By creating resilient landscapes which can adapt to changing conditions and bounce back after an extreme event.

Resilience to what?

#### **What are some of the general attributes of resilient plants and landscapes?**

- Adaptable, can tolerate a wide range of conditions (not fussy about soil type, moisture, temperature).
- Can ‘bounce back’ (regrow) after disturbance or an extreme event.
- Resprouters (plants that can survive and regrow from an underground rootstock after fire), and/or plants that can be heavily pruned and will regrow.

- Requiring little or no human input to survive (e.g. no watering or fertilising).
- Genetic diversity: plants grown from seed have different genotypes and therefore slightly different attributes. When there is an extreme event there is a greater chance that one / some individuals may survive than when there is a single genotype (i.e. a plant cultivar or variety which is clonally regenerated).
- Biodiverse landscapes tend to be more adaptable than those with low species diversity - more likely to include some species that will survive extreme events.

In addition to these general resilience traits, one can consider specific potential threats or future conditions that may affect landscapes.

- A site with a borehole in a region affected by power cuts is likely to have an interrupted water supply, resulting in temporary DROUGHT.
- A site on the urban edge and adjacent to flammable vegetation may be exposed to FIRE.
- Plantings in public areas or school grounds may be subject to TRAMPLING.
- In some area plants may be dug up (e.g. Porcupines, dune mole rats) or eaten by wild animals (HERBIVORY).