

Permaculture Principles

by Permaculture Visions International

Relative location

Aim to position elements in the design so that there is minimal transport between them. Use natural forces where possible to work for you. (Eg. Leaves carried by wind fall onto mulched beds, rainwater collected and fed into watering trough, Sunlight to warm wall behind seedling trays).

Multiple functions

Each Element in the design should be used and positioned to perform a range of functions. (Eg. a tree is planted to provide food, mulch, shelter for the garden or house, soil conditioning, water harvesting) Multiple elements for each function Try to satisfy a function with more than one element (Eg. use a tent of branches as well as a low windbreak of oats; and a planting of nurse trees to protect frost sensitive trees.)

Energy Efficiency

Use existing physical materials to maximum potential: share resources such as cars, support local transport, build structures that can work to shelter the garden as well as store heat for night time, require minimal energy in maintenance, and are durable. Avoid abandoning machinery or computers that are not competitive without first examining ways to update/expand and increase their efficiency. We bought second hand memory to expand our computer memory size. Many users do not use their equipment to full potential, they are still learning the potential of the current one while considering a new model.

Biological resources

Maximise the use of biological and physical materials. Where possible select items for long term impact on the system (plastic is not as useful a resource as biodegradable alternatives that can be used as mulch or compost) A wide-spreading tree is a more efficient use of resources for a shade house than one made of wood and nails. Selecting seed that shows greatest resistance to pests is better than resorting to pesticide (organic or non-organic).

Energy Flow

Design to capture existing energy flow (Eg. solar or running water. Even animals can be channelled to compact and stabilise slopes on contour.) Minimise the need for human energy input (Eg. position chickens to distribute mulch, to weed an area). Letting nature do the work.

Natural Succession

Imitate nature in your plans to help a system evolve to meet your needs. Allow the grasses to become seeded with herbs and flat 'weeds', grow tall grasses and pioneer species that act as green manure (Oats, Wheat, Sorghum) to protect climax species (e.g. fruit trees) from frost and insect attack.

Diversity

Aim to include a variety of each species of food plants or animals. Diversity in nature builds resilience and resistance to pest attack. It also lets us find which variety works well in our own particular climate and micro-climates.

Stacking

This concept aims to maximise the productivity of a system. A garden system can have numerous layers:

- 1. bulbs such as onions, ginger, carrots, turnips, beetroot;*
- 2. low grasses such as sedges, wheat, oats, and*
- 3. tall grasses like corn banana, arrowroot, cassava, cardamom;*
- 4. Ground covers such as pumpkin, Warrigal greens;*
- 5. Fungi such as Mushrooms, growing in the mulch beneath*
- 6. Herbs such as lettuce, spinach, parsley, celeriac;*
- 7. Shrubs such as wormwood, currants and bramble berries;*
- 8. Small trees such as Macadamia, fejoa, carob, avocado, oranges, small fig;*
- 9. Epiphytes and Aerial plants hanging on trees and in branches. They include stag horn ferns, bromeliads, orchids and epiphiliums with edible fruit.*
- 10. Vines such as Kiwi fruit, grape, passionfruit.*
- 11. Climax Species such as LillyPilly, Mulberry, Plums, Oaks, Ice cream bean, Nut trees.*
- 12. Parasitic plants such as figs, mistletoe.*

Appropriate Technology

Maximise the use of a technology by sharing or having it work to full potential without overload. Choose simplest and effective technologies.

Information and Observation replaces Energy

Look for the best fit between means and an end. Eg. Our Intensive systems are more productive, diverse and can be positioned with little waste involved in transporting produce to consumer. Robyn Tredwell became Australian Rural Woman of the Year 95-96, over 10 years she became a phenomena, her station finally became profitable and her work is copied by many. Most of

her success is linked to her keen sense of observation, she read much about other peoples practices, but few were in her same situation. Her station is in the Northern Territory of Australia - a tropical climate with wet and dry seasons. Her soil was compacted, denuded and full of invasive and dominating native and introduced species. She observed that she could use the weeds to regenerate the soil so that more desirable species could be introduced, she then went on to use the resources she had at hand, namely the cattle to weed and spread the seed. Look for optimum production with minimum intervention.

Context

Fit the design into its surroundings (avoid planting trees whose seed are carried by birds if the design is within an area of natural fragility - e.g. Rainforest). Look at the wider social environment as a key to what will work - plantings with expensive crops in may require more human intervention such as security whereas a design which meets broader social needs can work well for the design, welcoming workers and sharing produce encourages others to share. If the area is arid, try to establish a rich, mixed system in areas natural site advantages (E.g. water collection, condensation trapping, shelter, sediment) as occurs at an oasis. Work with the landscape.

Acknowledgement to Dan Earle who completed his PDC at Ovens Natural Park in Nova Scotia USA in July 1995. He brought to our attention the need for us all, in Permaculture training, to more clearly define Permaculture principles.