



urban  
agriculture  
AUSTRALIA



## Design from permaculture principles

### What is Permaculture Design?

The foundations of permaculture are the ethics 'earth care', 'people care' and 'fair share'. These ethics guide the use of 12 design principles. Each principle is a door that opens into whole systems thinking, pointing beyond the garden to personal, economic, social and political reorganization.

### Applications of permaculture principles in design

#### Building infrastructure that can enhance our way of life while minimizing long-term impact:

- Passive solar design: sun-oriented glazing and shading, thermal mass, passive venting.
- Natural construction materials.
- Water harvesting and waste reuse: water tanks, compost toilets.
- Biotechture: the manipulation of tree form to grow structures and buildings.
- Earth sheltered construction: earthships and other designs that build into the ground.
- Pattern language: organic design theory and tools of Christopher Alexander.

#### Human ingenuity used to transform energy from our environment to more useful resources:

- Reuse and creative recycling: decentralized reuse of materials through craft, rather than centralized industrial processes.
- Hand tools: traditional tools and skills.
- Bicycles and electric bikes.
- Efficient and low pollution wood stoves: rocket and other stove designs using simple materials and local construction.

- Fuels from organic wastes: bio-diesel, methanol, biogas and wood gas for local cooking, electricity and transport.
- Wood gasification: efficient and carbon neutral fuel for local power and transport.
- Bio-char from forest wastes: charcoal soil improver and carbon capture.
- Co-generation: use of fuel to generate electricity and provide heat for on-site use.
- Micro-hydro and small scale wind: simple renewable technologies for remote and local grid power.
- Grid-tied renewable power generation: use of the electric grid as a 'battery' for localized power generation.
- Energy storage: heat banks, pumped storage (water), compressed air, and other simple temporary stores of energy.
- Transition engineering: re-localization of the maintenance, retrofit and redesign of infrastructure and technology.

#### Redefining how we learn by becoming more active and encouraging creativity

- Home schooling and Waldorf education.

- Participatory arts and music: reclaiming our place as actors/musicians not spectators.
- Social ecology: redesign of society using ecological principles.
- Action learning: progressive problem solving that accepts the observer as a part of the system being studied.
- Transition culture: an evolving exploration of the head, heart and hand of energy descent.

#### **Taking more personal responsibility for our own well-being:**

- Home birth and breast feeding.
- Complementary and wholistic medicine.
- Spirit of place and indigenous cultural revival: reconnection of spiritual and cultural values to place and 'country'.
- Yoga, tai chi and other body/mind/spirit disciplines.
- Dying with dignity: move to reclaim dying from institutionalized medicine.

#### **Alternative exchange systems reduce reliance on the fragile monetary economy:**

- Farmers markets and community supported agriculture (CSA).
- Tradable energy quotas: equitable distribution and trade of the right to consume and pollute.
- Life cycle analysis and 'emergy' accounting: measuring full costs and benefits.
- Local and regional currencies: interest-free money systems serving a defined territory.
- Carpooling, ride sharing and car share.
- Ethical investment and fair trade.
- WWOOFing and similar networks: voluntary exchange of work for food, accommodation and experience of ecological living.

#### **Develop new ways to provide access to land and govern our communities:**

- Cooperatives and body corporates: legal structures for collective ownership.
- Open-space technology and consensus decision-making.
- Native title and traditional use rights.

#### **Permaculture begins with understanding nature, rather than working against her:**

- Bio-intensive gardening: using compost, double digging, companion planting and natural pest control to maximize food production.
- Forest gardening: producing food in a system that mimics a natural forest.
- Seed saving: collecting and storing seeds.
- Organic agriculture: commercial agriculture using natural fertilizers and pest control.
- Biodynamics: based on the work of Rudolf Steiner.
- Natural farming: a Japanese system of organic agriculture associated with Masanobu Fukuoka.
- Keyline water harvesting: using dams, channels and soil condition ploughing.
- Wholistic rangeland management.
- Natural sequence farming.
- Nature-based and agroforestry.
- Integrated aquaculture
- Wild harvesting and hunting: gathering food from wild plants and animals.
- Gleaning: gathering food wasted by commercial production.

Reference: David Holmgren permaculture principals website <http://permacultureprinciples.com/>



Permaculture Canberra

### **For further information on this topic**

#### **Permaculture Canberra**

Permaculture Canberra is the oldest permaculture group in the ACT. We provide permaculture and sustainable living courses across the ACT and South East NSW.

To contact Permaculture Canberra or find out more about courses and workshops visit our website at [www.permaculturecanberra.com.au](http://www.permaculturecanberra.com.au).