

# Briefing Sheet

## Permaculture Design

Permaculture is an ecological design process. Design is our opportunity to observe the situation and create a plan of action that will allow us to make best use of available resources and create a more productive system, that meets more of our needs and creates less pollution.

There are a range of techniques and processes that are used. They are used in conjunction with permaculture principles and ethics to create an overall pattern or design. Below are some of the processes and techniques that are used.

### Design Processes

'O'BREDIM' - this is an acronym for:

**O Observation** - key to permaculture is good observation. Use all of your senses. Record observations systematically. Try to observe land over the four seasons and in different weather, especially extremes - frost, heavy rain, very warm, etc. Where does the snow clear first? Where does frost collect? Where does it stay wet or boggy longest? What is the wind like in the winter, and in the summer? Where do cats like to sit (the warmest spots!) What wildlife is there? What is the soil like and does it vary over the site? etc....

**B Boundaries** - What are the boundaries of the site? Walk them and see what you find. What is over the fence, how will this affect you? What are the boundaries of the project - its 'scope'.

**R Resources** - What resources exist? Financial resources - what money is available to invest in the project? Is it available in a lump sum or small amounts over many months? What skills are there? What plants, structures or other resources are available? Is funding available from outside bodies?

**E Evaluation** - Analysis of what you have got - how do elements interact? Evaluate your resources, will they make a big project possible, or do you need to design a long programme of small changes?

**D Design** - This is where you can play with all your colouring pencils! A base map of what exists can be overlaid with tracing paper and you can start to look at how different aspects of the design might look. Many design techniques exist and most are relatively easy to use.

**I Implementation** - Consider how your plans can be made real, consider the timing/phasing of the project. Create a plan of action and ensure that everyone knows what the plan is. (Best to involve them right from the start, if it doesn't reflect what they want to happen, it won't!)

**M Maintenance** - Make sure that you consider what maintenance is involved when you are designing. There is no point creating a system that needs 3 days a week to maintain, if there are only 2 days available.

... another simpler process is 'SADI':  
**S**urvey **A**nalysis **D**esign **I**mplementation.

### Design techniques

#### Sector Planning

The site is drawn and lines showing north, south, east and west are added (sectors). Winds, path of the sun (in winter and summer), water movement, wildlife patterns and movement, vehicles and other energies are added to build up a picture of how things flow. By understanding this we can devise strategies to trap the useful energies and build fertility and yields.

#### Zoning

This is a way of designing to maximise energy efficiency in which activities are put in different zones, depending on frequency of use, maintenance, visits etc.

Generally, activities and structures are placed as follows:

**Zone 0:** Centre of activities - the house. This is high maintenance, high use and requires considerable investment of time and energy.

**Zone 1:** Annual plants, herbs, compost, bike store and other high use activities.

**Zone 2:** Chickens, other animals, orchard, greenhouse.

**Zone 3:** Water storage, main crops, field shelters.

**Zone 4:** Forestry, pasture, dams, forage.

**Zone 5:** Wild zone, where nature is in charge and where we go to learn and harvest only that which is abundant.

#### Input-output analysis

This is a process to establish what a system needs and what it produces. It can also help to measure the viability of a plan.

- What are the costs involved in implementing the design? Financial £/\$, time, available resources etc
- Ditto for maintenance
- What yield will the system produce?
- Where is there a shortfall in resources as things are at present?

#### SWOT analysis

Identify the **S**trengths, **W**eaknesses, **O**pportunities, **T**hreats of the project.

## Patterns in Design

### Use of the Pattern Language

This is a book by Christopher Alexander et al (Oxford University Press), that has uncovered patterns that can be observed in the way we create places to live and work. Highly recommended and an invaluable source of inspiration and guidance. Number two in a series of three books - starting with *The Timeless Way of Building* and ending with *The Oregon Experiment*.

Go to: [www.arch.usyd.edu.au/~rob/study/PatternLanguage.html](http://www.arch.usyd.edu.au/~rob/study/PatternLanguage.html) for a useful summary of the book.  
[www.jacana.org.uk/pattern/P14.htm](http://www.jacana.org.uk/pattern/P14.htm) gives a sense of how it works (but is only a summary of the full text.)

## Keyline Planning

### Yeoman's Relative Permanence scale

This proposes that there are scales of permanence that guide the order in which we place attention to the design of the landscape. The first point at which we can generally make an intervention is water (since we cannot control the climate, or determine the broadscale landscape.) On this basis, the first thing to do when designing is to consider how we can guide and use water to best effect, and how we can get it to perform as many functions as possible before it leaves the site. P.A. Yeoman was an Australian who developed the Keyline System, and this has been used widely to good effect, and has transformed many previously degraded landscapes. It is a key strategy used within broadscale permaculture design.

His scale of permanence is:

**Climate**  
**Land shape**  
**Water**  
**Roads**  
**Trees**  
**Buildings**  
**Fences and boundaries**  
**Soil**

## Other useful Tools

### Ecological footprint analysis

This can be used as a design tool, in particular to check the ecological impact of different designs and existing situations. Lots of really useful work done in this area already, so a wealth of data and calculators available that can help guide decisions.

Useful books:

Our Ecological Footprint: Reducing Human Impact on the Earth. Mathis Wackernagel and William E. Rees, 1996. New Society Publishers, Gabriola Island, BC. Available from: [www.newsociety.com/oef.html](http://www.newsociety.com/oef.html)

Sharing Nature's Interest: Ecological Footprints as an Indicator for Sustainability. Nicky Chambers, Craig Simmons and Mathis Wackernagel, 2000. Earthscan, London [www.ecologicalfootprint.com](http://www.ecologicalfootprint.com).

Useful websites:

[www.bestfootforward.com](http://www.bestfootforward.com) - lead organisation in the UK  
[www.geography.btinternet.co.uk/ecoprint.htm](http://www.geography.btinternet.co.uk/ecoprint.htm) - has links to a range of different online and downloadable footprint calculators, to help you look at your own personal footprint and beyond.

## The McHarg Exclusion Method

Ian McHarg was a Scotsman who has spent most of his working life in North America as a professor of landscape design. He was once asked by a group of local residents to support them in objecting to the route of a proposed road. In working towards a proposal for an alternative route, he came up with his exclusion method. The basis of his method is to ask not where something should go, but where shouldn't it go. A base map is drawn and a series of transparent overlays are prepared, each one mapping areas which are excluded for a specific reason. In his original work on the road proposal the subjects for overlays included: too near to residential areas, forest, areas of wildlife value, marsh, and areas incurring extra expense, e.g. a bridge. When all the overlays are placed over the base map at once any area which remains blank is ideal, and areas which have the least constraints can be considered if the blank area is not sufficient. The method can be used for placing new structures or plantings in the landscape, including: settlements, individual houses, farm buildings, new woodland and orchards. His book is *Design With Nature*, McHarg, Ian L. 1971. Doubleday/Natural History Press, Garden City, New York.

## Edward De Bono's thinking tools

A wide range of thinking tools have been developed, mainly as part of his CoRT curriculum for thinking (Cognitive Research Trust). Edward De Bono believes (rightly!) that thinking is a skill, rather than an inherited trait or genetic endowment. It is different from intelligence, and can be practiced just like tennis. His tools and lessons enable systematic thinking, both individually and as a group.

For example the 'PMI'. This stands for Plus, Minus and Interesting. It is an evaluation tool that enables you or your group to give a balanced evaluation of an issue or project (for example a draft design). All points are accepted and can be contradictory - 'detailed' may be seen by some as a plus and by others as a minus, but both are accepted and this can highlight areas that may benefit from further thinking. By providing 'rules' for thinking, Edward De Bono has made thinking an activity that can be highly cooperative and productive within even the most diverse of groups. When used alongside Mind Mapping, as pioneered by Wolf White, it can have amazing results and lead to much more productive, creative and cooperative meetings.

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## About the Permaculture Association

The Association is an education and research charity that supports the development and use of permaculture in Britain and around the world.

For full details about our work see our website or contact us at the office.

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