

## **PERMANent AgriCULTURE or PERMANent CULTURE**

*Permaculture is an ethical design system for creating human environments that are ecologically sound and economically viable. Permaculture integrates innovative science into the conscious development of cultivated ecosystems that have the diversity, stability, and resilience of natural ecosystems.*

*Permaculture is a practical concept applicable from the balcony to the farm, from the city to the wilderness. It enables people to establish productive environments providing for food, energy, shelter, material and non-material needs, as well as the social and economic infrastructures which support them. Permaculture means thinking carefully about our environment, our use of resources and how we supply our needs. It aims to create systems that will sustain not only for the present, but for future generations.* definition from Permaculture International Journal

### **Permaculture is...**

- a globally recognized environmental design methodology. The founders of Permaculture, Bill Mollison and David Holmgren, coined the term 25 years ago. Now there are over 4000 independently operated projects in 120 countries
- the conscious design and maintenance of agriculturally productive systems which have the DIVERSITY, STABILITY, RESILIENCE & CREATIVITY of natural eco-systems (cultivated ecosystems)
- a whole systems approach to ecological planning and design - a way of thinking, based on a positive and creative solution-finding, that provides tools for working towards long term sustainability
- a holistic ecological approach to the design and development of human settlements takes into account food production, structures, technologies, energy, natural resources, landscape, animal systems, plant systems, and social and economic structures.
- applicable to both urban and rural contexts, and to any scale of design.
- about working with, rather than against, nature. It provides us with the tools to satisfy our needs in a way that sustains the earth, future generations and ourselves.
- inspired by traditional wisdom, especially the sustainable farming cultures of Asia, India and Africa and incorporates new appropriate methods and technologies.
- concerned with the restoration of soil as a priority (Healthy Soil = Healthy Plants = Healthy Food = Healthy People)
- based on the environmental ethics and principles of design and close observation of nature rather than a set of techniques. These ethics and principles draw from a broad cross-section of disciplines. The aim is to create beneficial and supportive relationships between elements in the landscape that recognise the interconnectedness and diversity of the natural world. It calls for a move from monoculture to polyculture.

**PERMACULTURE** aims to assist people and communities to develop ecoliteracy (ecological literacy) and ecodesign skills and work towards more sustainable ways of living. Permaculture teaches, amongst other things, how to:

- Observe nature and become more ecologically aware and responsible
- Restore the land, forests, waterways and local ecologies
- Grow fresh healthy chemical-free food
- Maintain and improve soil fertility and prevent erosion
- Use water wisely - collection, storage, reusing, cleansing
- Reduce pollution and waste and utilize resources responsibly
- Plan and design sustainable houses and human settlements
- Strengthen the local economy, create local employment and work co-operatively
- Build on strengths and abundances within the bioregion
- Share this knowledge with others.

There is not one single solution to the problems we face but the universal applicability of the principles of Permaculture enable us to find solutions that are location and needs specific.

The ethics of Permaculture are a philosophical guide to aid us in the process of making good decisions. These ethics are not unique to Permaculture but can be found in varying ways in many of the wisdom traditions.

**EARTH CARE** Conservation of Biodiversity  
Clean air and water  
Restoration and conservation of forests, habitats and soils  
Recycling and pollution reduction  
Conservation of energy and natural resources  
Appropriate technology

**PEOPLE CARE** Health and well-being  
Nourishment with good food  
Lifelong learning  
Right livelihood and meaningful work  
Community belonging  
Open Communication  
Trust and Respect

**FAIR SHARE** Co-operation  
Networking and sharing  
Distribution of resources and wealth  
Reduction of consumerism  
Rethinking current notions of growth, progress & development  
Making a contribution

Using the ethics of permaculture, we can ask "Does my project/do my actions care for the earth, care for people and share resources equitably?"

Permaculture Principles are based on close observation of nature, traditional sustainable agriculture systems earth sciences and common sense.

Below are definitions and examples of each of the Permaculture principles with relation to sustainable land management and property design.

**DIVERSITY** Design for diversity and variety not monoculture. Aim to integrate a variety of beneficial species of food, plants and animals in the landscape. This builds a stable and interactive polycultural system that provides for human needs and also the needs of other species. Polycultures are stable as they reflect the design of a natural ecosystem.

*Example:*

*In a diverse garden you will find many foods all year round to provide a healthy and balanced diet. There will also be habitat for animals and insects which help in natural pest control; flowers to attract pollinators and create a beautiful garden; herbs for teas, flavour and medicine etc.... Using this principle of diversity, you can create a garden which has much more food available in the same space. It also recognises the need to provide and maintain the habitat for other species without which we could not survive.*

**EDGE EFFECT** There is more life on the edge where two systems overlap. Systems can then access the resources of both. Use the edge effect and other natural patterns observed to create the best effect. (There are no straight lines in nature.)

*Example:*

*If a pond or dam has a shallow ledge it provides places for fish to breed, for plants to grow which can feed the fish. Also, with a wavy edge it can provide more edge for this habitat.*

**ENERGY PLANNING** Place things in a permaculture design to minimise the use of energy (human and fossil fuels). Utilise the energy and resources both on-site and from outside as effectively as possible. This also saves time, energy and money.

*Examples:*

*Internal energy- eg. Use slope and gravity to move water rather than electric pumps.*

*External energy - eg. direct cooling breezes into your house with trees, but shield your house and garden from the strong winds, which can cause damage, or be unpleasant. Place the kitchen garden as close to the house as possible. It therefore has easy access for harvesting and maintenance and it is in view so that you can protect it from potential damaging effects (stray animals etc)*

process. Recycle and reuse your local resources as many times as possible within a polycultural system.

*Example:*

*Recycle nutrients on-site (eg food scraps to compost) so that you do not need to import expensive fertiliser. Also use your wastewater to water and fertilise plants - therefore not creating polluting runoff into nearby waterways. Plant roots take up these nutrients and turn them into food, in the process cleansing the water.*

**SCALE** Create human-scale systems and be space efficient. Choose simple, appropriate and effective technologies. Do as much as you are able. Start small and take achievable steps to reach your goal successfully. Create groups which enable people to feel they can actively participate, be involved in the decision making and feel a connection to and ownership of the process.

*Examples:*

*Design to make intensive use of space - create multi-layered and diverse gardens. This allows you to meet your needs from less space and in a global sense maximises the space available for natural systems to maintain the ecological balance, which supports human and other life.*

**BIOLOGICAL RESOURCES** Use natural methods and processes to achieve a task. Find things in nature (plants, animals, microbes etc) that enjoy doing the task and minimise the inputs required from outside.

*Examples:*

*Chickens like to scratch. In preparation for a garden bed, use chickens to scratch up the area eat the weeds/weed seeds and fertilise it before planting. Comfrey (herb) has deep roots, which bring nutrients from deep down in the soil. The leaves can then be used to make a rich fertiliser instead of chemical fertilisers.*

*Compost worms like to decompose organic matter. While doing this they make holes in the soil which allows the movement of air and water (saves you from having to dig). They also leave natural fertiliser in the soil as they move through it, which feeds the plants making them stronger against pests and more nutritious to eat. Worms make healthy soil (healthy soil = healthy plants = healthy people). Therefore help the worms do the garden digging and fertilising for you by returning organic matter (their food) to the soil and by mulching the soil thus protecting their home (the topsoil).*

**MULTIPLE ELEMENTS** Support each vital need and essential function in more than one way (don't put all your eggs in one basket!). Also recognise that there's more than one way to achieve a task.

*Examples:*

*In a monoculture garden, there is only one type of food available. If that single crop fails due to pests and diseases, there is no other food in your garden. Where possible grow many types of food - vegetables, fruits, leafy greens, herbs, tubers, grains, legumes, and nuts.*

*Also, don't rely on just once source of water - try to access as many sources as possible - river, dam, pond, tank, town water, bore, well etc... If one source is contaminated or depleted, there will be another source of available water (a vital need).*

**MULTIPLE FUNCTIONS** Everything has many uses and functions. In permaculture we aim to design so that every element performs at least 3 functions.

*Example:*

*A tree can perform many functions - food, shade, timber, fibre, microclimate, habitat, soil improvement and maintenance, mulch, animal fodder etc.... Choose species, which have the most functions you require and place them where they can be of the most use and meet your needs most efficiently.*

**NATURAL SUCCESSION** Work with nature and the processes of natural systems. Facilitate natural growth and help to accelerate it naturally.

*Example:*

*When establishing a garden or orchard, delicate plants need to be protected from harsh sun, wind and rain. Use hardy and fast-growing pioneer species to create a good environment for their growth and to provide protection.*

**RELATIVE LOCATION** Every element is placed in relationship to others so that they can benefit each other. Create supportive environments by placing things together which help to develop a self-sustaining system, replicating a natural ecosystem. From a functional perspective - those things used together, place together. This allows more efficient use of a space and minimisation of your energy in utilising these resources.

*Examples:*

*Companion planting- ie plant garlic under citrus to help prevent aphids.*

*Where possible, place the compost heap so that it is easily accessible from the kitchen (for food scraps), and close to the garden where the finished compost will be used. In addition, it is good to place the compost heap uphill from the garden as the nutrients that leach from the heap will run straight into the vegetable garden and fertilise it without you having to do any work - it's much easier to carry heavy loads of compost downhill.*