

The 12 Permaculture Design Principles

Compiled by Jason Gerhardt

1. Observe and Interact.

Good design depends on a free and harmonious relationship between nature and people, in which careful observation and thoughtful interaction provide the design inspiration, repertoire and patterns. It is not something that is generated in isolation, but through continuous and reciprocal interaction with the subject.

2. Catch and Store Energy.

Some of the (appropriate) sources of energy include:

Sun, wind, and runoff water flows, wasted resources from agricultural, industrial and commercial activities

The most important storages of future value include:

Fertile soil with high humus content, perennial vegetation systems, especially trees, water bodies, passive solar buildings.

3. Obtain a Yield.

This principle reminds us that we should design any system to provide for self-reliance at all levels (including ourselves), by using captured and stored energy effectively to maintain the system and capture more energy. More broadly, flexibility and creativity in finding new ways to obtain a yield will be critical in the transition from energy growth to descent.

4. Apply Self-Regulation and Accept Feedback.

This principle deals with self-regulatory aspects of Permaculture design that limit or discourage inappropriate growth or behavior. With better understanding of how positive and negative feedbacks work in nature, we can design systems that are more self-regulating, thus reducing the work involved in repeated and harsh corrective management.

5. Use and Value Renewable Resources and Services.

Renewable resources are those that are renewed and replaced by natural processes over reasonable periods, without the need for major non-renewable inputs. In the language of business, renewable resources should be seen as our sources of income, while non-renewable resources can be thought of as capital assets. Spending our capital assets for day-to-day living is unsustainable in anyone's language. Permaculture design should aim to make best use of renewable natural resources to manage and maintain yields, even if some use of non-renewable resources is needed in establishing systems.

6. Produce No Waste.

This principle brings together traditional values of frugality and care for material goods, the modern concern about pollution, and the more radical perspective that sees wastes as resources and opportunities. The earthworm is a suitable icon for this principle because it lives by consuming plant litter (wastes), which it converts into humus that improves the soil environment for itself, for soil microorganisms, and for the plants. Thus the

earthworm, like all living things, is a part of a web where the outputs of one are the inputs for another.

7. Design from Patterns to Details.

The spider on its web, with its concentric and radial design shows a clear pattern even though the details always vary. This icon evokes zone and sector site planning - the best known and perhaps most widely applied aspect of Permaculture design.

8. Integrate Rather than Segregate.

In every aspect of nature, from the internal workings of organisms to whole ecosystems, we find the connections between things are as important as the things themselves. Thus the purpose of a functional and self-regulating design is to place elements in such a way that each serves the needs and accepts the products of the others.

9. Use Small and Slow Solutions.

Systems should be designed to perform functions at the smallest scale that is practical and energy-efficient for that function. Human scale and capacity should be the yardstick for a humane, democratic and sustainable society. Whenever we do anything of a self-reliant nature - growing food, fixing a broken appliance, maintaining our health, we are making very powerful and effective use of this principle. Whenever we purchase from small, local businesses or contribute to local community and environmental issues, we are also applying this principle.

10. Use and Value Diversity.

The great diversity of forms, functions and interactions in nature and humanity are the source of evolved systemic complexity. The role and value of diversity in nature, culture and Permaculture is itself complex, dynamic, and at times apparently contradictory. Diversity needs to be seen as a result of the balance and tension in nature between variety and possibility on the one hand, and productivity and power on the other.

11. Use Edges and Value the Marginal.

This principle works from the premise that the value and contribution of edges, and the marginal and invisible aspects of any system should not only be recognized and conserved, but that expansion of these aspects can increase system productivity and stability. For example, increasing the edge between field and pond can increase the productivity of both.

12. Creatively Use and Respond to Change.

This principle has two threads: designing to make use of change in a deliberate and cooperative way, and creatively responding or adapting to large-scale system change which is beyond our control or influence. The acceleration of ecological succession within cultivated systems is the most common expression of this principle in Permaculture.

(Adapted from Permaculture: Principles and Pathways Beyond Sustainability, by David Holmgren)