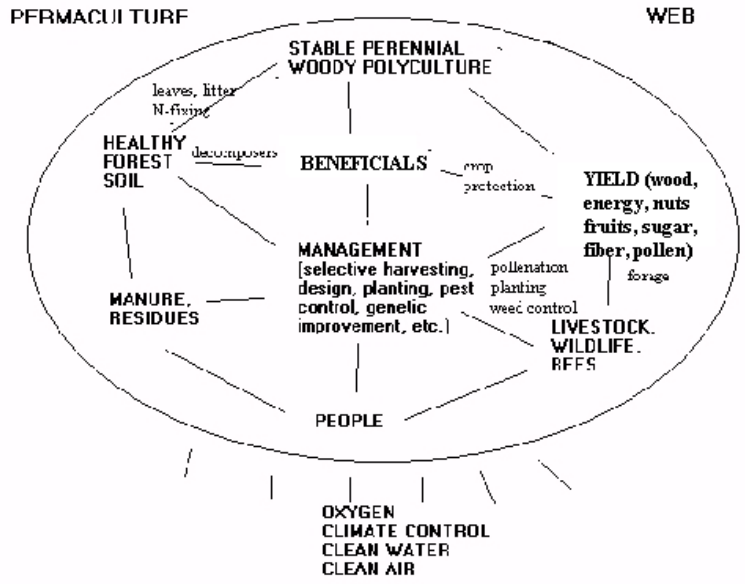
Permaculture: For the Future

Conventional Agriculture: A **Linear** Business Model. The emphasis is on **inputs** in the form of "improved" seed (often GM), fossil fuel based fertilizers, and oil based pesticides to protect the crop. Culture is centered on the usage of heavy equipment needed to plant and manage the monoculture crop along with its harvest. As in any other business the goal is profit. The soil is little more than a "container" to hold up the plants while keeping nutrients and water in the root zone. Many farmers buy their food in the grocery store like most. Western Food system: Largest source of greenhouse gases.

Organic: **Circular**, but also a business model: **Soil Health** is the focus and there is an emphasis on "returning" crop residue and manures to the soil. There is a tendency to reduce the need for the above inputs through crop rotations, more polyculture, using green manures, integrating livestock, and through efforts to maximize soil organic matter. In many cases a premium and desirable product results in an improved "bottom line". Often but not necessarily more "local". Many organic farmers are also focused on self sufficiency and grow and preserve much of their own food.



Permaculture uses a systems approach and ecological principles to integrate humans (family or population) back into the earth (from whence we came) through the use of a polyculture **web** of perennials and animals designed to maximize stability and resilience while minimizing outside nutrients, water and non solar energy inputs. Permaculture <u>is</u> local but its effect is global through minimizing the use of oil while at the same time it develops its "capital" which is the land and biota and its growing and evolving synergistic interelationships. Like a tropical rain forest this developed system is a net remover of carbon and is a real answer to alleviating our energy and climate problems. The scale can be anything from the backyard to the urban apartment to small farms to applications on the great plains(water conservation strategies-swales, keyline management, perennial polycultures, trees, restoring buffalo range).

Planning Fundamentals

Observation: What is growing, what relationships exist, what elements can you use? Draw a map. Look at aerial photos, soil types, behavior of water on the property. Observe succession.

Zonation: **I**. Main living area, Kitchen, herb garden, greens. Includes Energy efficient design, solar hot water, roof water collection, etc **II**. Main food producing area, small fruits, stone fruits, Compost Pile, Windbreak, multifunctional landscape. Chicken barn may be at outer edge of this. **III**. Other livestock, pasture, extensive fruit and nut trees. **IV**. Managed woodlot. **V**. "Wilderness"

Sectors: Design to take advantage of sun, wind, water, etc for energy conservation/generation for example. Prevailing winds-summer, winter, winter sun, summer sun, privacy needs, aesthetics.

Edge Effect: Increase productivity at interfaces. Spiral garden. Wavy boundaries.

Stacking of Functions: A windbreak can be more than a windbreak, it can produce many other products! A nut tree can shade your house. Ponds increase diversity, resilience and supply water.

Water is key: (summer drought) keyline farming, planting on contour, swales, rainwater catchment, pond for irrigation. Keep water on the land! Keep new plantings watered.

Guilds: Plants that help each other. Companion planting. Native americans used corn, beans, squash.

Apples, blackberries, cattle. Mulberries, Caragana, Chickens. Many different plants can perform synergistic functions in an orchard with improvements in health, yield and pest control.

Succession: Raspberries, Peaches and other shortlived stone fruits can be succeeded by other longer lived nut trees. Alley cropping of annuals between young trees.

Climax: Great resilience and diversity. Can be opened up a little to increase edge and productivity.

Useful **Overstory** Trees: Sugar Maple (of course!), Beech, Chestnut ("the corn tree"), Walnuts, Hickories (including Pecan), Oaks, Persimmons, Pears, Locust (N), Alders(N), other legumes.

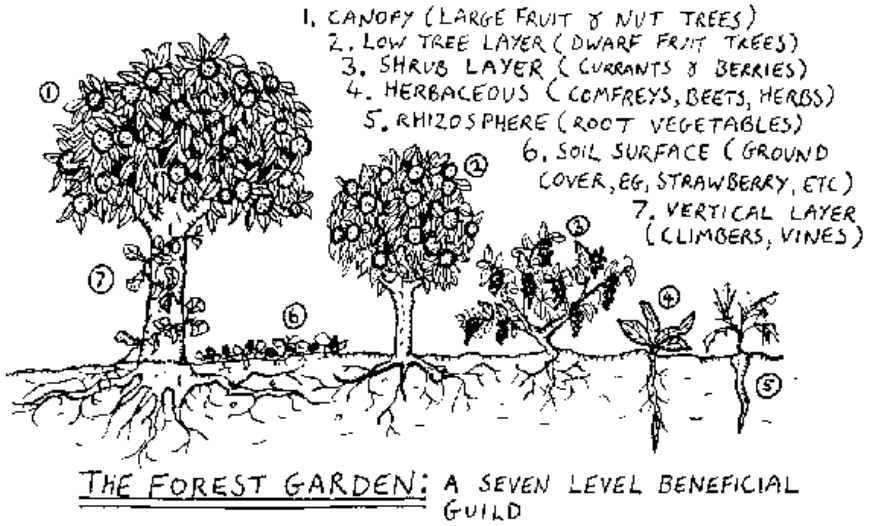
Useful **Understory**: Paw Paws, serviceberries, dogwoods (nutrient recyclers), hazelnuts, elderberries

Useful **Herbal** Layer: Comfrey-good for chickens. Rhubarb, Sunchokes, May apples, Ramps, Strawberries, Potatoes in mulch. Bamboo! Don't forget different mushrooms!

Vines: Grapes, Hardy Kiwis, Cucurbits, Scarlet Runner Beans

Animals: Poultry a must: Urban **Backyard hens** are making a comeback. Chicken tractor. Eat kitchen scraps. Goats are very practical and easy to integrate on a small scale.

Nitrogen Fixing Species: Alders, Black locusts, *Caragana*, *Eleagnus* sp.,



by Graham Burnett at:loveplantlife.com

Aquaculture: Huge increase in diversity and resilience. Amphibians are a sign of ecological health

Other Nutrient Fixing Species

Other Ecological Models:

Wetland - "Waste" processing/recycling, biodiversity, productive

Prairie: Perennial polyculture- www.landinstitute.org

Downsides Pests! Fencing, electric, dog. But.... haven't had any potato bugs for years.

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Bountiful Web Resources