

Permaculture:

*Design framework for organic agriculture
in the energy descent era*

by David Holmgren

IFOAM Adelaide September 2005

What Is Permaculture?

A design system for
ecological living
and land use

A grass roots and
international movement
of practitioners, designers
and organisations

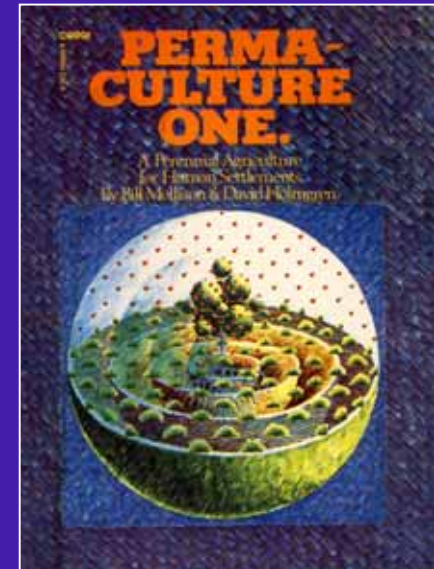
An empowering response
to environmental & social crisis
based on ethics & design principles

A process for reclaiming
our place in nature

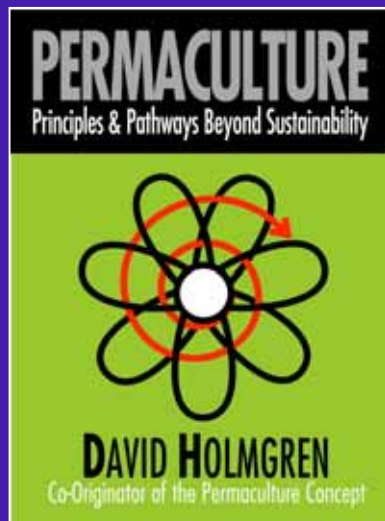
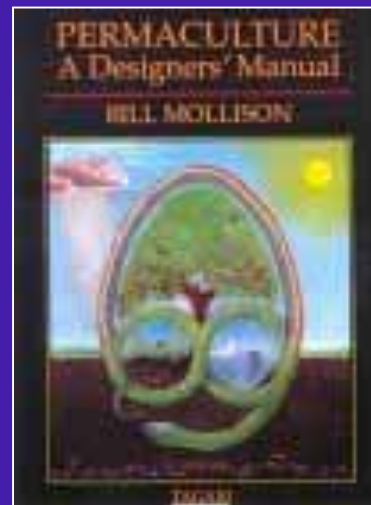


Permaculture milestones

Permaculture One (1978)
Bill Mollison & David Holmgren



Permaculture: A Designers' Manual
(1988) Bill Mollison



Permaculture: Principles and Pathways Beyond Sustainability
(2002) David Holmgren

Environmental & Social Crisis?

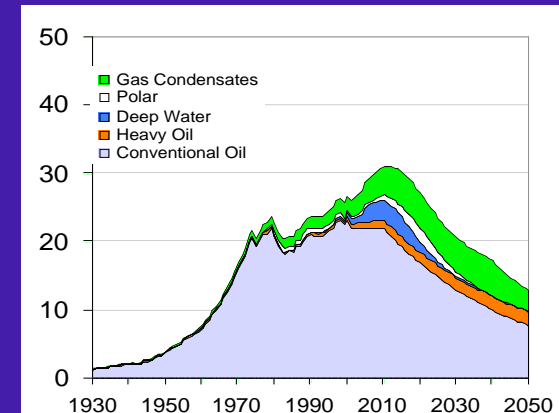
Environmental

- Climate change (already happening)
- Land degradation (continuing)
- Resource depletion (global oil peak)



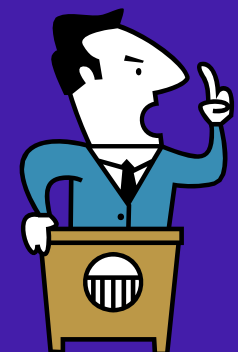
Social

- Family & community breakdown
- Addictive behaviours



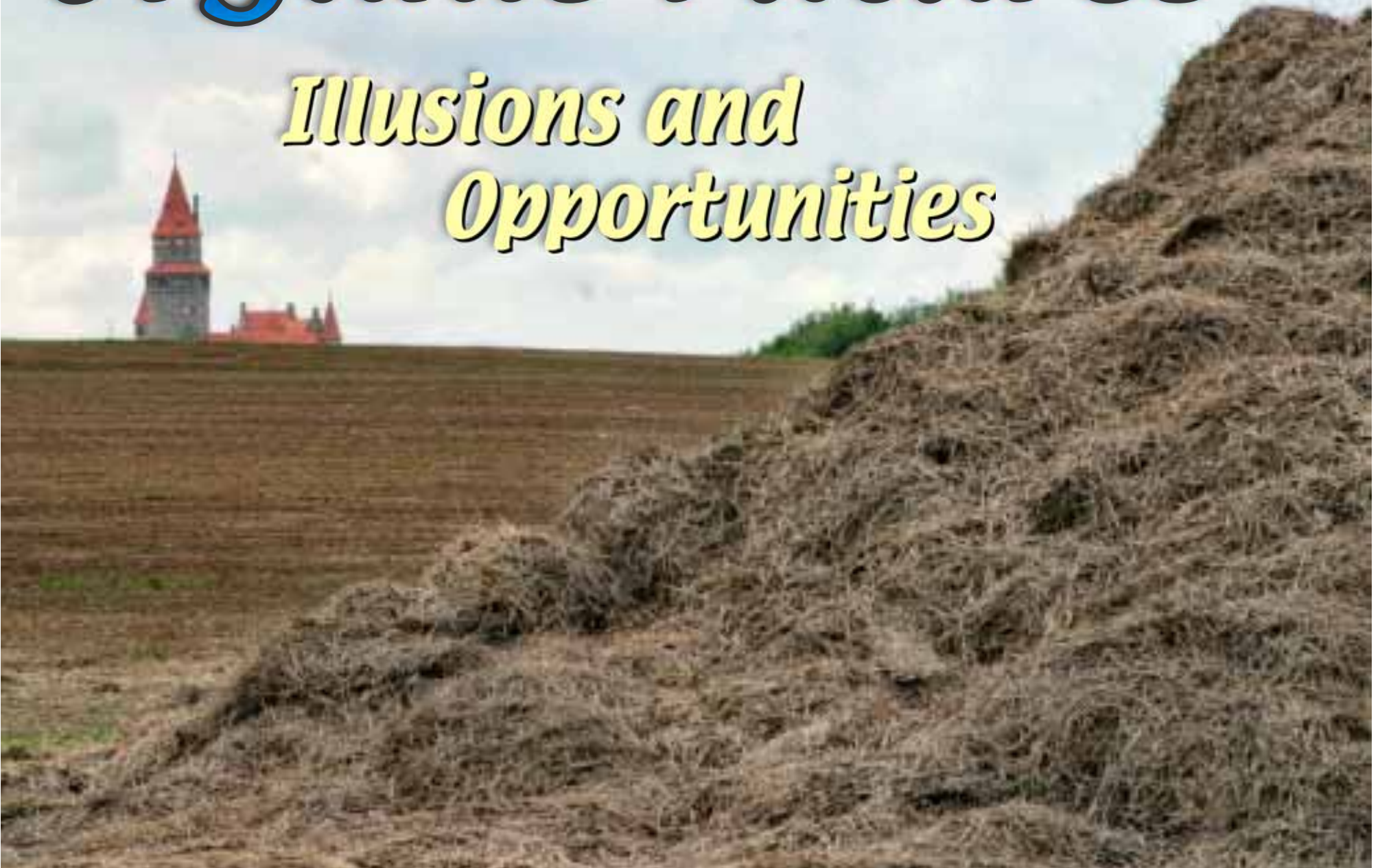
Economic & Political

- National & household debt (unprecedented)
- Robber baron capitalism, criminal economies
- Illusion and deception, neo-fascist solutions



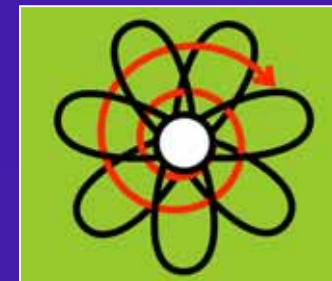
Organic Futures

Illusions and Opportunities



Opportunities for creative descent

- Rises in oil prices will flow through to all commodities (fuels, metals, timber, food, etc)
- Higher commodity prices will;
 - make local products will be more competitive than imported ones
 - stimulate self-reliance, repair, retrofit and recycling
 - allow low input & organic farming to compete against intensive land uses
- Demand for permaculture as life skills education
- Resurgence of community life, ethics and values





Permaculture design in ecological agriculture

- Biodiversity conservation
- Reducing our dependence on dominant annual crops and livestock
- Integrating tree and annual crops
- Soil building & fertility maintenance
- Water harvesting & management
- Complementary land uses

*with examples from
Australia and the
world*

Biodiversity conservation & seed saving



Heirloom corn variety
North Carolina



Koanga Gardens (New Zealand) Seed Bank

Threatened wildflowers thriving in
permaculture food systems
Krameterhof Austria (Sepp Holzer's)

Tree crops: a perennial agriculture

Fungi: food from recycling biomass

Pistachio nuts, Food Forest,
South Australia



Shiitake mushrooms on oak
Swalmann Netherlands

Fodder trees: the missing link in pastoral farming

Dairy goat consuming
willow fodder (Melliodora)



Tagastaste; living haystack, bee & poultry
fodder (yield 15-25t edible dry matter/ha)



Soil fertility building & maintenance

Sheet Mulching, Food Forest South Australia



Worm farm processing food & animal waste,
Edendale Farm, Eltham Victoria

Natural farming, Azmino Japan



Working animals: yields & ecological services



Aigamo ducklings controlling pests
and manuring in organic rice, Chiba Japan



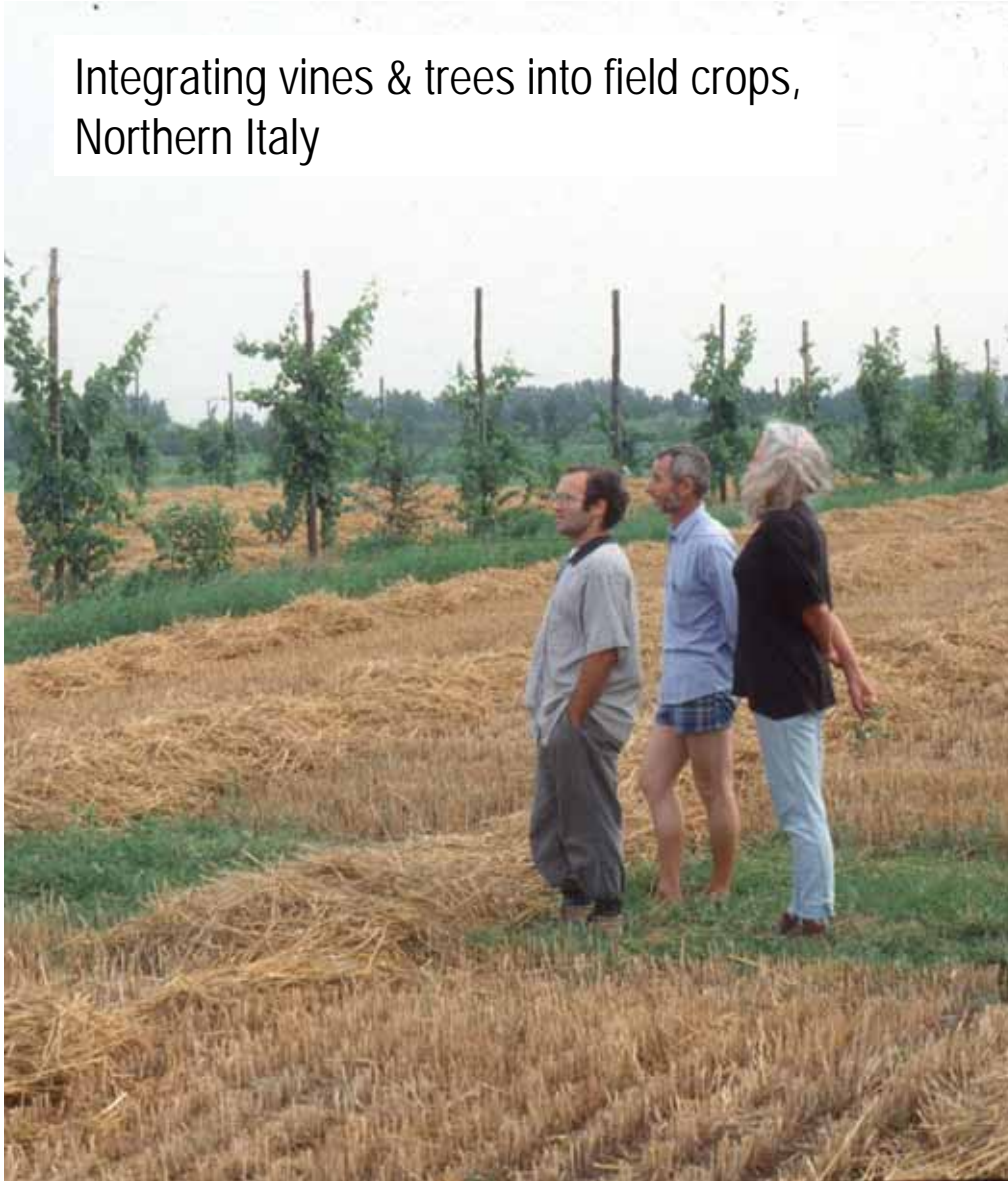
Geese grazing under
orchard trees (Melliodora)



Pig Tractor: Healthy pigs cultivating in cherry
orchards, Krameterhof Austria (Sepp Holzer)

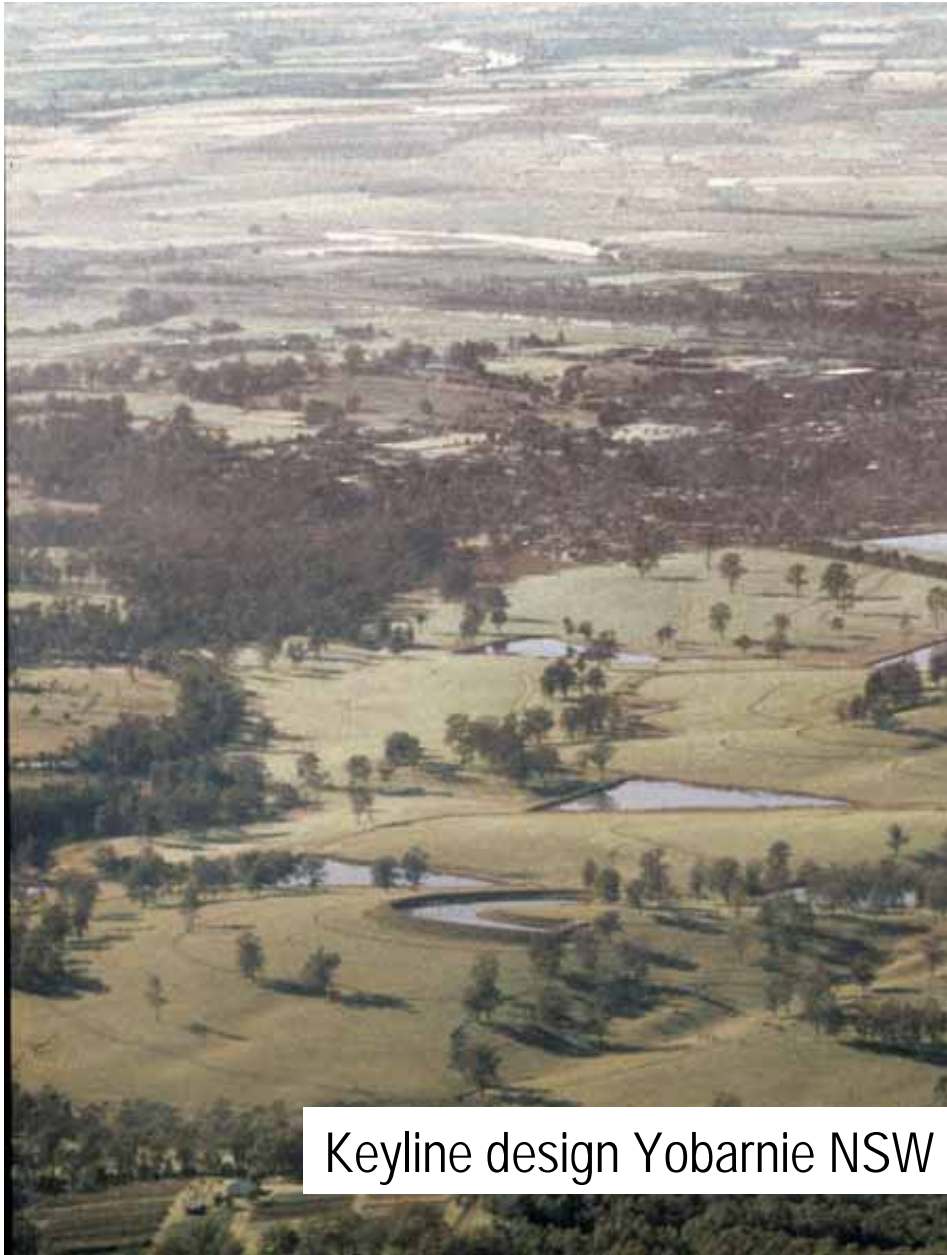
Agroforestry: new way to design & establish trees

Integrating vines & trees into field crops,
Northern Italy



Grow tubes protecting Carobs & other high value
tree crops in mounded beds, Anglesea Victoria

Water harvesting earthworks



1yr tree growth on mulched swales Jordon (PRI photo)

Keyline design Yobarnie NSW (the original property of P.A. Yeomans)

Nature-based forestry

Planted exotic pines, high pruned and
natural regrowth of eucalypts & acacias



Thinning coppice regrowth eucalypt
Fryers Forest Eco-village



Aquatic polyculture



Red claw (crayfish) aquaculture
integrated with bamboo production,
Southern Queensland

Permaculture Design

to complement & support ecological agriculture

- Garden Agriculture & Ecological building
- Household water harvesting, reuse and humanure composting
- CSA's, farmers markets, WWOOFing, environmental education and training
- Local and regional currencies
- Eco-villages
- Development and disaster relief projects

Garden Agriculture & Self-reliance



Kitchen garden raised beds (Melliodora)



Sun drying fruit
(Melliodora)



Pasta making (Melliodora)

Ecological building & appropriate technology



Passive solar design heating & natural local materials, Melliodora

Attached solar greenhouse, Styerberg Germany



Rainwater harvesting & natural waste water treatment

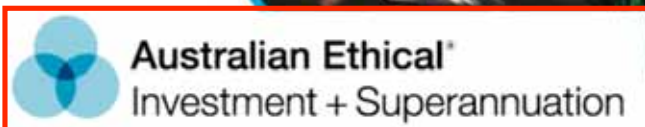


Ferrocement rainwater tank
fed from house roof, Fryers Forest Eco-village



Grey water treatment system
Be Good Café, Seto World Expo Japan

Local economy & exchange



Community Supported Agriculture

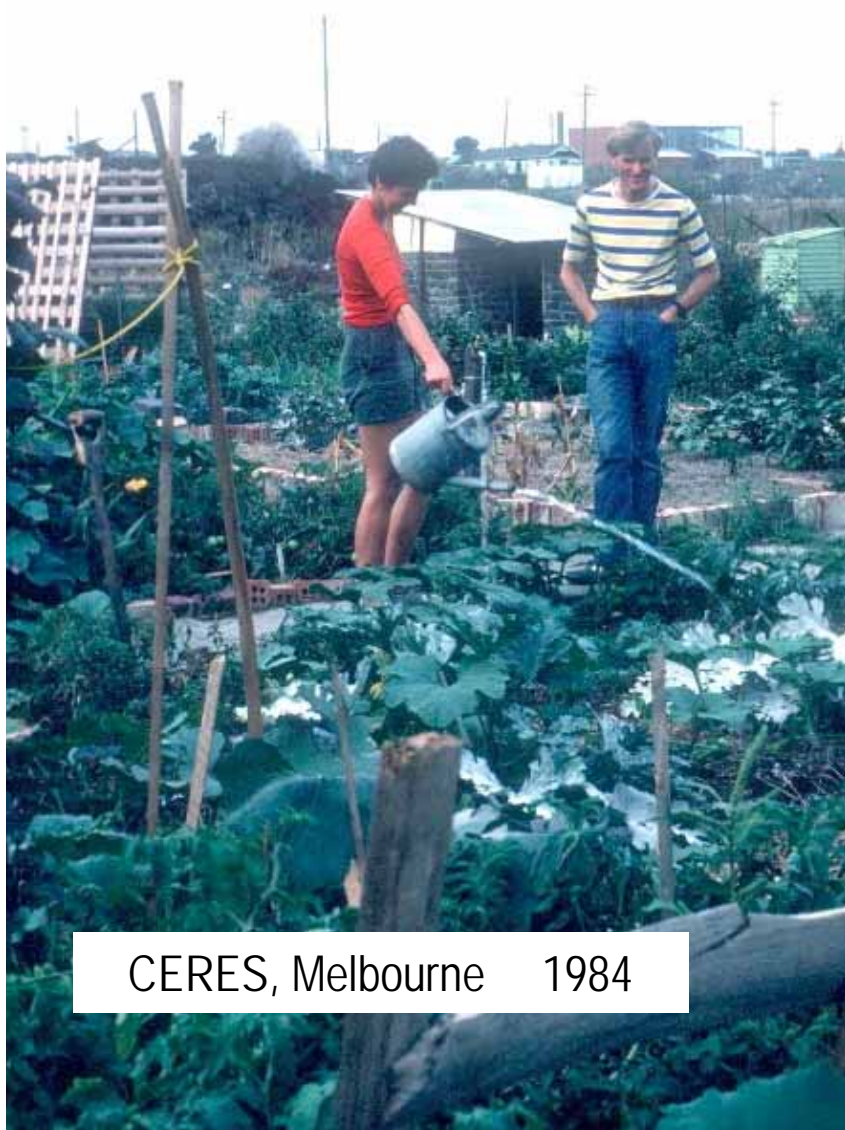


LETS
local currency



Willing
Workers
On
Organic
Farms

City Farms & Community Gardens



CERES, Melbourne 1984



Garden of Eden, Melbourne



University of B.C. farm Vancouver Canada



Co-housing & Eco-villages

- Ecological building & common infrastructure
- Agricultural development & enterprise
- Community governance

Village Terrace Co-housing
at Earthaven, North Carolina

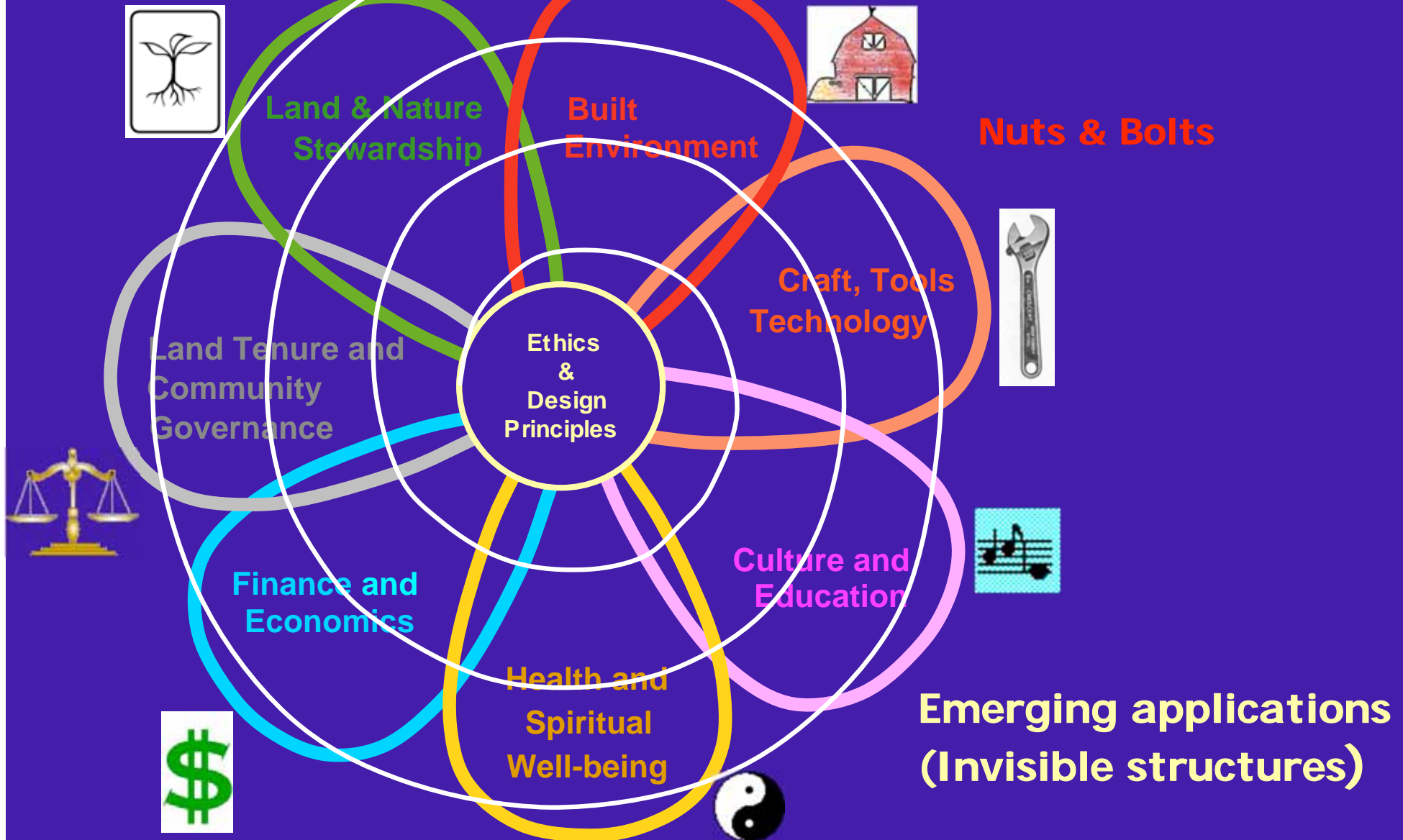


Community orchard working bee
FryersForest Eco-village
Central Victoria

Seven Domains of Permaculture Action

Living Source

Weaving together the 7 domains

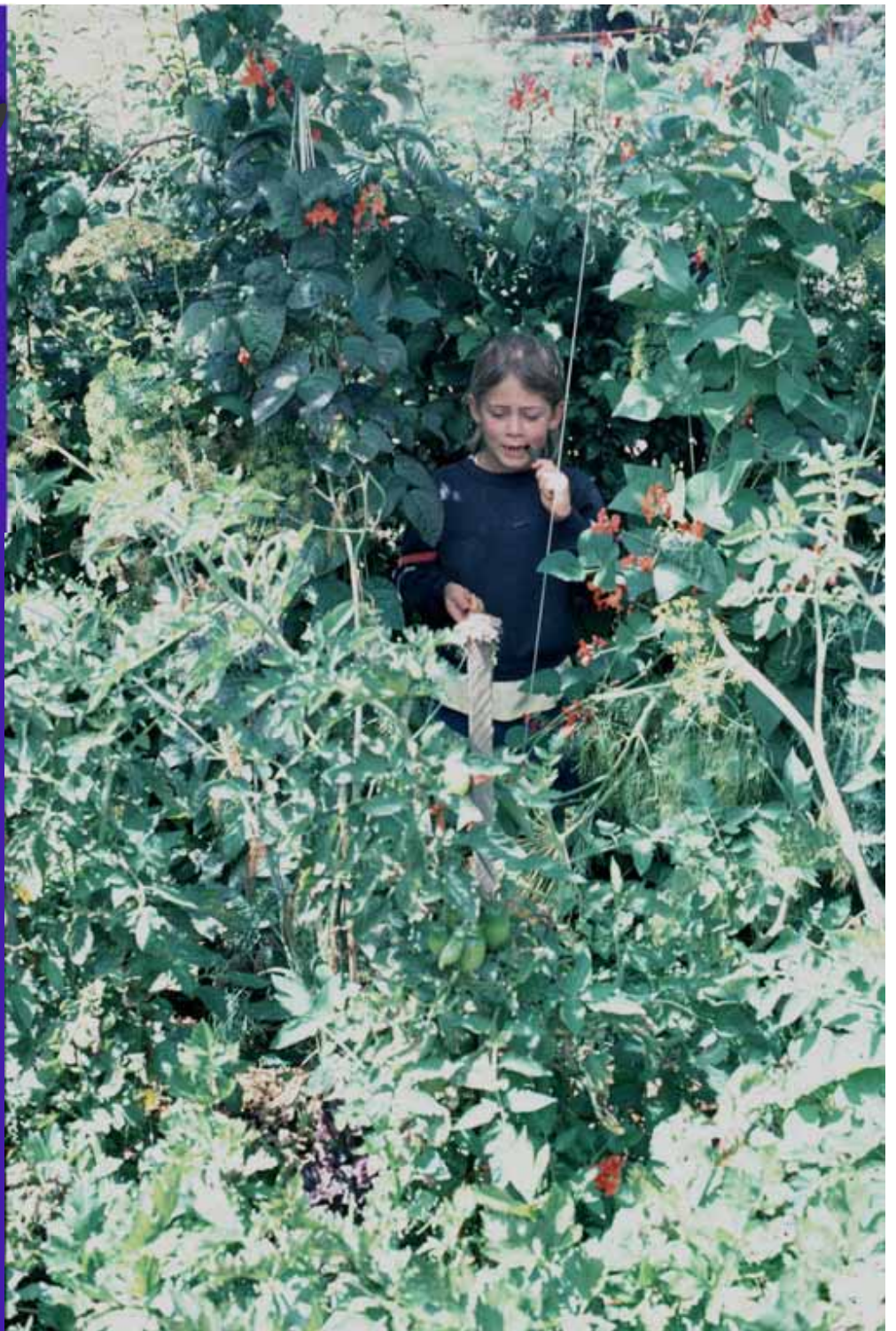


Perma- culture

*Reclaiming Our
Place In Nature*

7/25/06

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Some Permaculture References & Resources

- Melliodora & Fryers Forest (Holmgren Design Services) www.holmgren.com.au
- Food Forest South Australia www.users.bigpond.com/brookman
- Permaculture (UK magazine) <http://www.permaculture.co.uk/>
- Permaculture Activist (US magazine) www.permacultureactivist.net/
- *Permaculture: A designers manual* by Bill Mollison 1988
- *The Earth Care Manual* by Patrick Whitefield 2004
- *Permaculture: Principles and Pathways Beyond Sustainability* by David Holmgren 2002

