

## **Appendix FOUR Commercial Scale Permaculture**

Commercial Scale Permaculture has been very successful in economies of energy input /output, sustainable farming practises and production of quality certified organic food. As an example, The Food Forest, Gawler, South Australia owned by Annemarie and Graham Brookman is a permaculture farm producing 160 varieties of organically certified food and Winner of The South Australian Premier's Food Awards 2007 amongst their many awards.

As an example the plantation produces 1.27 times more food energy than is applied as inputs. A benchmark conventionally-managed nut farm has a Ratio of product to input energy of 0.51, meaning that about twice as much energy went into the production of the crop as was harvested.

Thus the method of farming is critical to energetic performance and sustainability. Organically managed farms often have better ratios than conventionally managed ones even though yields on conventional farms tend to be higher.

### **Evolution and planned succession**

A full permaculture design doesn't come to maturity for at least 20 years However short term income can be derived from annual cash crops and contract growing.

### **Processes, principles and technologies used in our Permaculture design include: Reading the landscape –**

- identify a broad set of limits to the capability of the land
- define the nature and most likely location and direction of potential catastrophic events such as floods, fire, etc.
- analyse microclimates, soils, topography, aspect, water, wind, existing vegetation, lime outcrops, access etc
- detailed planning within the regional land capability limits - Maps, aerial photos and plastic overlays are used

### **Placement of elements in the design –**The success of a Permaculture Farm depends on:

- The intelligent placement of windbreaks, shade trees and biodiversity plantings, particular orchard blocks.
- packing sheds, animal housing and handling facilities
- plantings for the utilization of waste water

**Energy** - A permaculture design is done not just spatially (where things are placed on the ground) but also in terms of energy flow. This will produce a property which minimises the use of outside resources and production of waste

**Using biological resources** - Many functional horticultural operations can be carried out by plants or animals without external inputs....pest management, weed control, fertiliser application, Nitrogen fixation, shade, shelter etc.

**Multifunctional elements** – In any Permaculture garden the following elements are essential: existing and future dam(s) will provide for irrigation, fire control, aquaculture and waterbird habitat leguminous ground covers controls dust and weeds, fixes Nitrogen, provides grazing and bee forage. Important functions of the permaculture property are served by various elements -

Weed control will be achieved by, grazing, mowing, mulching, shading, outcompeting, hoeing, spraying with biological controls, steaming and parasitising.