



***Permaculture Solutions  
for a  
Sustainable Future***

A Presentation by Elisabeth Fekonia



Our Earth - its species and support systems are in crisis.

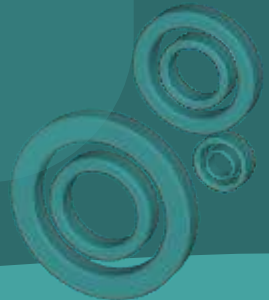
Permaculture design offers practical, tried and proven, positive solutions - available now - today - to anyone.

More people need to learn how to apply these strategies - technology can help.

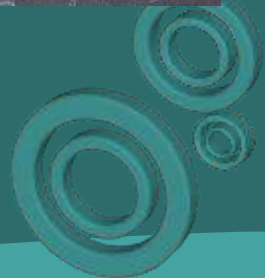
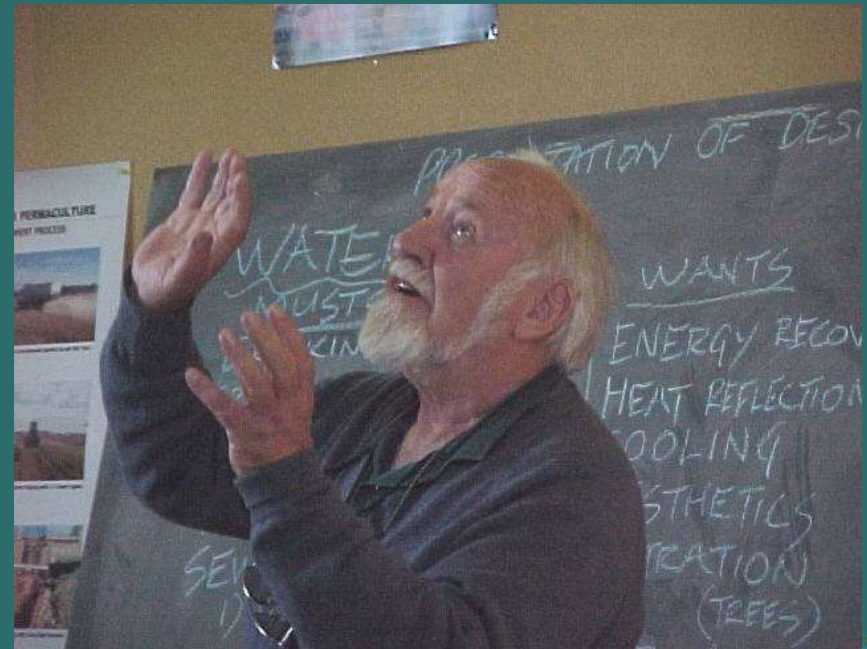
# Permaculture

Thirty years ago Bill Mollison and David Holmgren identified the trend towards UNSustainability and created a design system based on ethics and principles that gave practical solutions for sustainable

- Ecosystems
- Societies / Cultures
- Economies



# Bill Mollison and David Holgrem



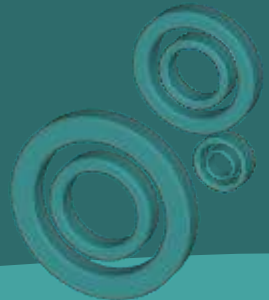
# Bill Mollison

- BILL MOLLISON, the legendary Permaculture teacher, promoter and designer - who, over 26 years of non-stop travelling and writing, personally planted the seeds of Permaculture in over 120 countries. Bill is the founding director of The Permaculture Institute, the first and longest running Permaculture Institute in existence

(Established 1978 Incorporated 1981.)



Bill taught Permaculture Design Courses all over the world.



# The Three Ethics



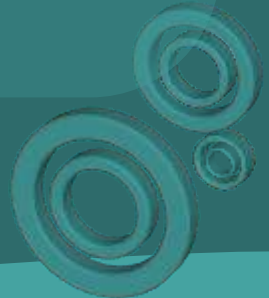
Care of Earth

Care of People

Return of Surplus

# ~ Permaculture ~ Permanent Agriculture

- A polyculture as opposed to monoculture
- A method of agriculture that takes from the past and adds science and design to maximise efficiency
- Promoting local and home food production





# Permaculture Principles

- See solutions not problems
- Co- operation not competition
- Make things pay
- Work where it counts
- Use everything to its highest capacity
- Bring food production back to the cities
- Help make people self reliant
- Make the least change for maximum effect
- Everything gardens
- Everything works at least both ways
- Each element performs many functions
- Each important function is supported by many elements
- In crease diversity and so increase stability



# BANANA CIRCLE



**See solutions not problems.**

# Bring food production back to the cities



City farms and community gardens

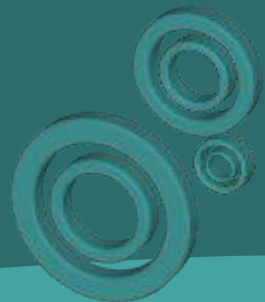


# Aquaponics

- An aquaponic system is fish and vegetable culture
- One system supports the other
- Water is recycled and filtered constantly



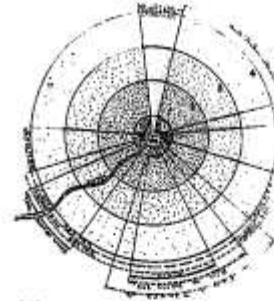
# Co-operation not competition



# Permaculture is about planning



## SECTORS



Elements that come from outside our system and pass through it.

The Wild Energies are sun, light, wind, rain, wildfire and water flow.

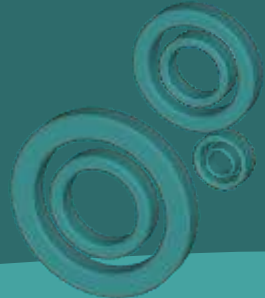
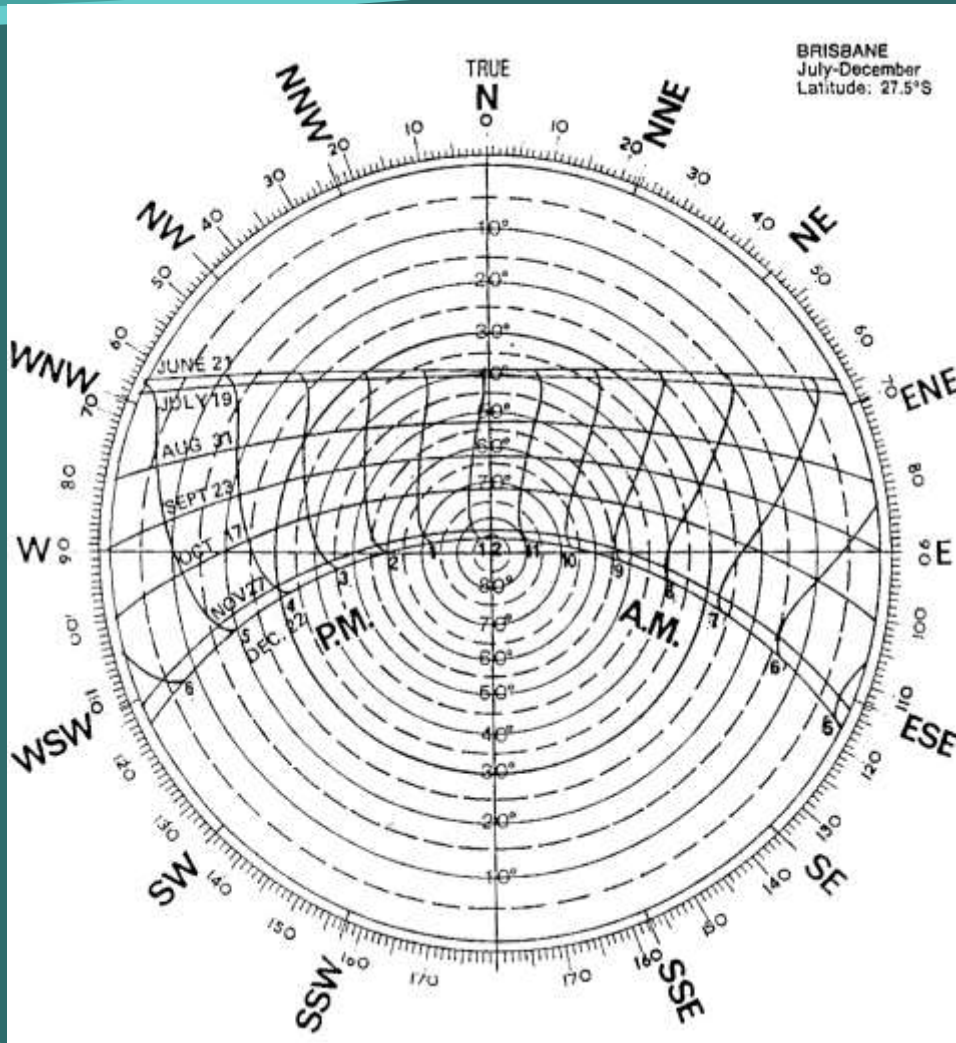
On your ground plan sketch out the factors of;

- Fire danger sector
- Cold or damaging winds
- Hot, salty, or dusty winds
- Screening of unwanted views
- Winter and summer sun angles
- Reflection from ponds
- Flood prone areas

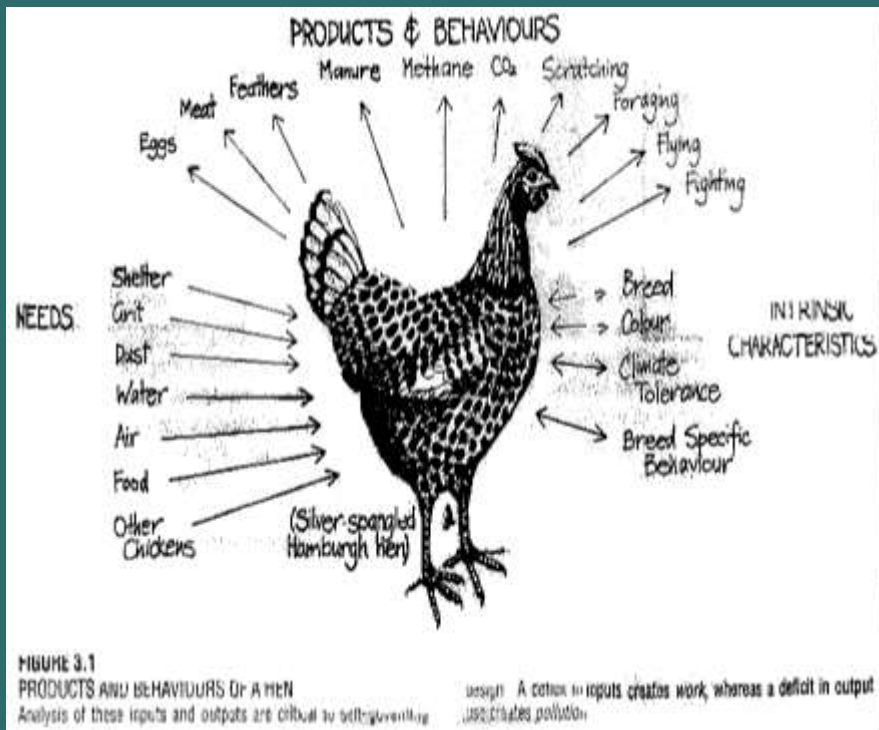
We place design components to *manage incoming energies.*



# Design for sun / light sector



# Permaculture is about analysis

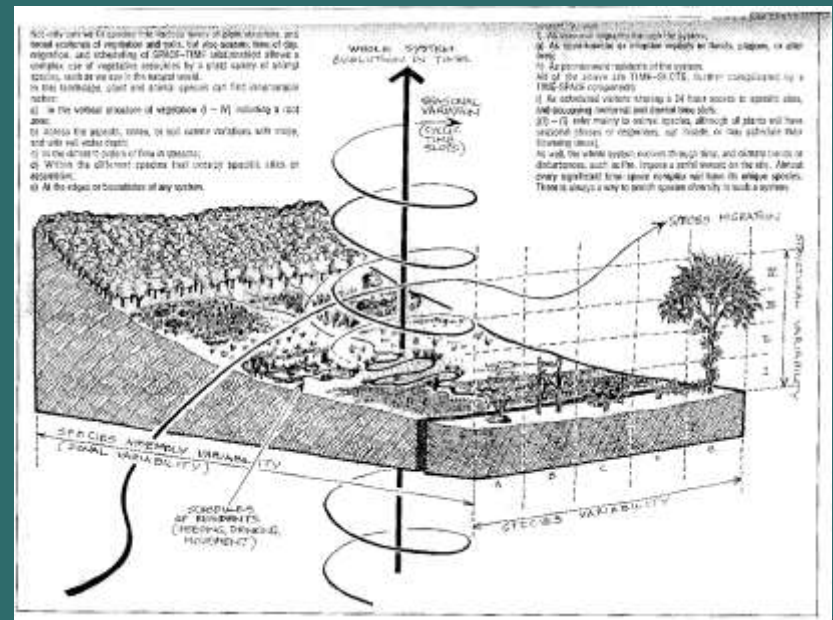


- Design by listing the characteristics of components.



# Principle of Cyclic Opportunity

- Every cyclic event increases the opportunity for yield
- To increase cycling is to increase yield



# Open and Closed Systems

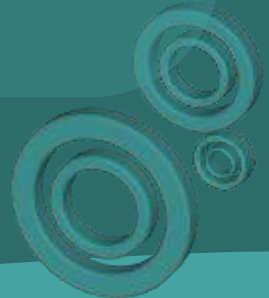
- In open systems energy is gained or lost irreversibly.
- In closed systems the energy is in a loop to maintain the system.



# Water

“Water is the driving force of all nature.”  
(Leonardo da Vinci)

“Very little of the world’s total water reserves are actually available for present human needs”  
(Mollison, 1988 p.152)



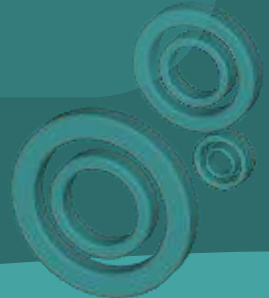
# Harvesting water for agriculture

- Polyculture
- Creating micro-climates
- Utilising average rainfall for agriculture
- Swales and dams



# Water harvesting is based on keyline designs

- P. A. Yeoman's 'keyline' system provides drought-proofing for farms
- Low maintenance and operating costs
- Has a total design for foothill farms, access, tree belts, soil creation, low tillage and creative water storage



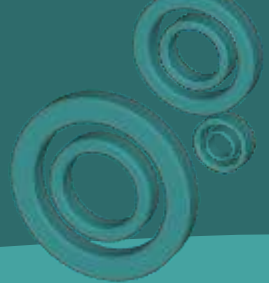
# Geoff Lawton



- Is a master at harvesting water
- Has 'greened the desert', a project in Jordan by growing food with harvested rain

- Director of the Permaculture Institute
- Leads projects for sustainable farming and housing in third world countries

# Harvesting Water in the Landscape



# Geoff Lawton was a student of Bill Mollison in 1984



- *GEOFF LAWTON*, who is world renowned for field expertise and extensive teaching experience in the ecological “badlands” of Earth and areas of extreme cultural conflicts, as well as more friendly environments.
- Founding director of the acclaimed Permaculture Research Institute, Geoff together with his Institute, is working in more countries and co-ordinating more projects on the ground than any other Permaculture Institute today..

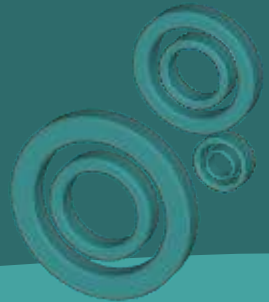




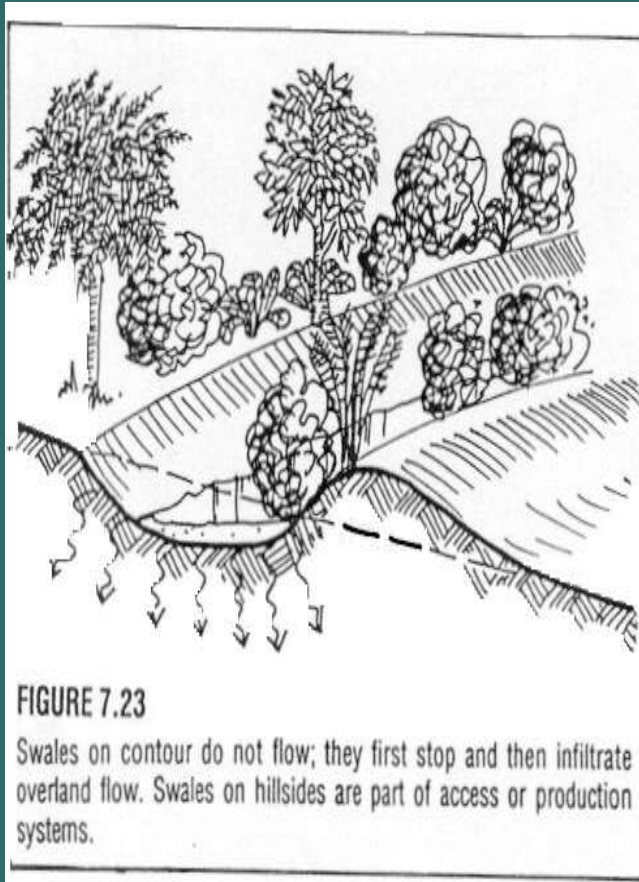
# Greening the Desert



# Using Swales



# Groundwater Recharge



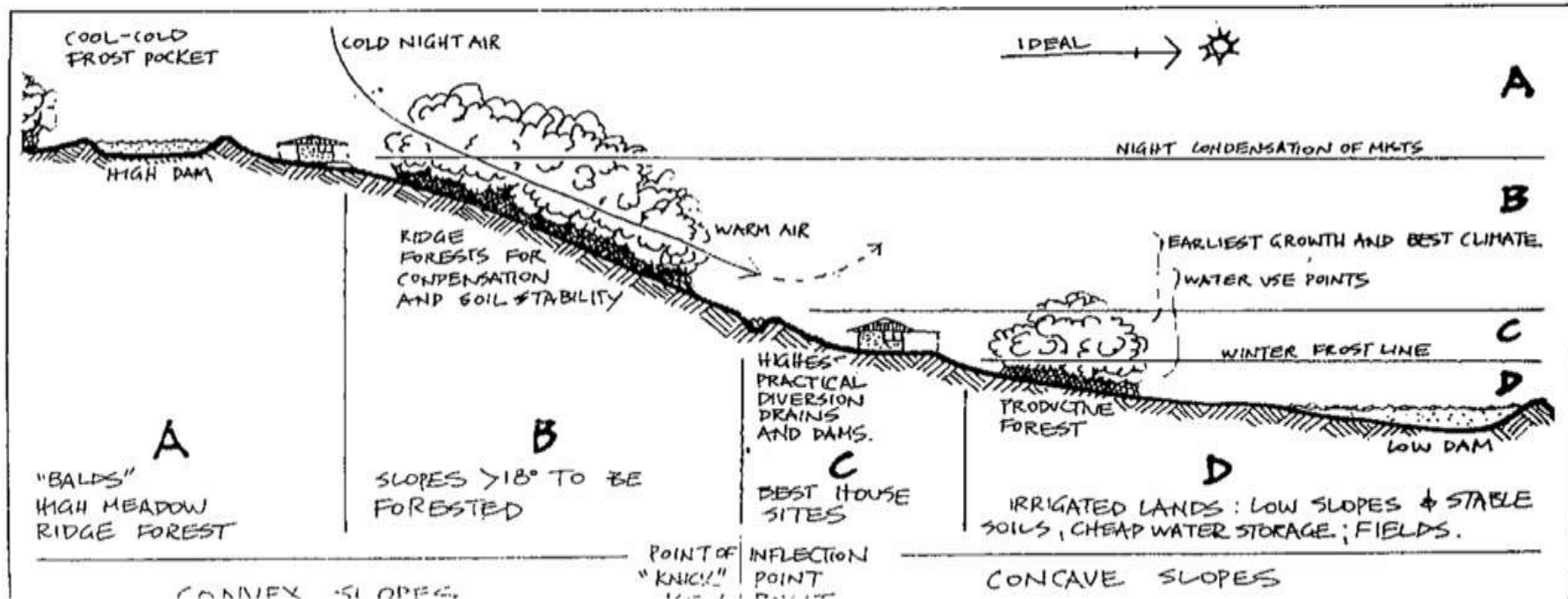
- Tree planting must accompany the swales for soil stability and shade
- To increase humus
- Trees must be part of a swale system to reduce the risk of
  1. Water logging
  2. Loss of evaporation to affect local rainfall



# SLOPE

Looking at the site in profile.

- Find the aspect
- Locate the key point/ points
- Try to place a high dam
- Consider the gravitational movement of nutrients
- Consider air movement
- Consider access

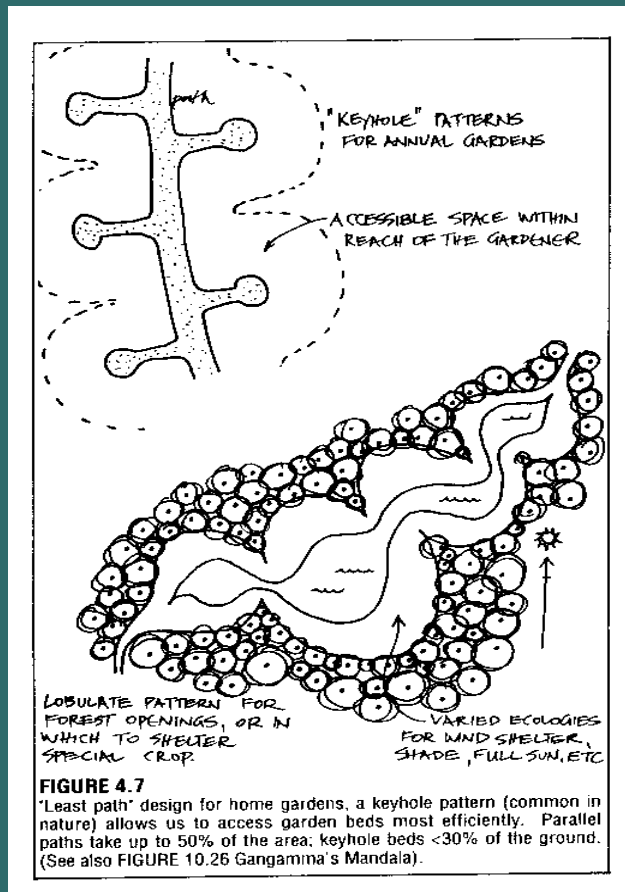


# Local and Home Food production

- As environmentalists we are encouraged to grow as much of our own food as possible
- Permaculture gardens differ from the conventional methods
- Plan and design to be able to garden with minimum input and maximum output

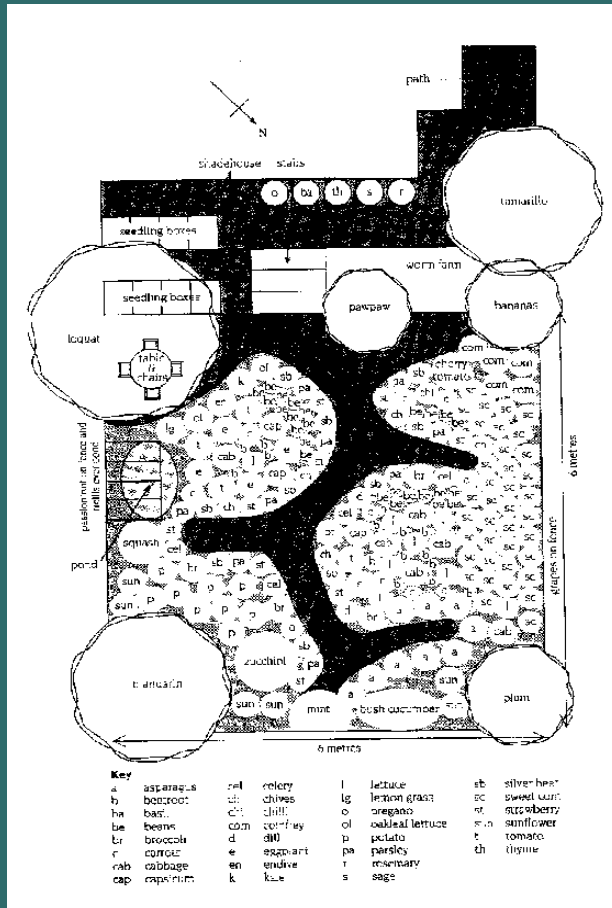


# Why Use Keyholes?



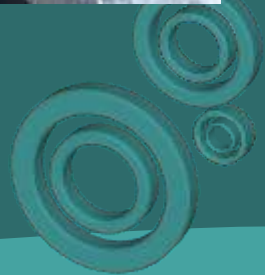
- Common in nature.
- Circular shape gives maximum internal area for least circumference.
- Reduces path area in garden. Parallel paths take up 50% of the area. <30% in keyhole design. (Mollison p78).
- Less path area = less runoff.

# Why Use Keyholes?



- Discourages straight row planting = **reduction in pests.**
- A keyhole design is the base unit for a mandala.
- One mandala in the backyard will supply a family of 4 with all their herbs, vegies, eggs and plenty of fruit. (Linda Woodrow p16).
- Keyholes are aesthetically pleasing.

# Sheet Mulching

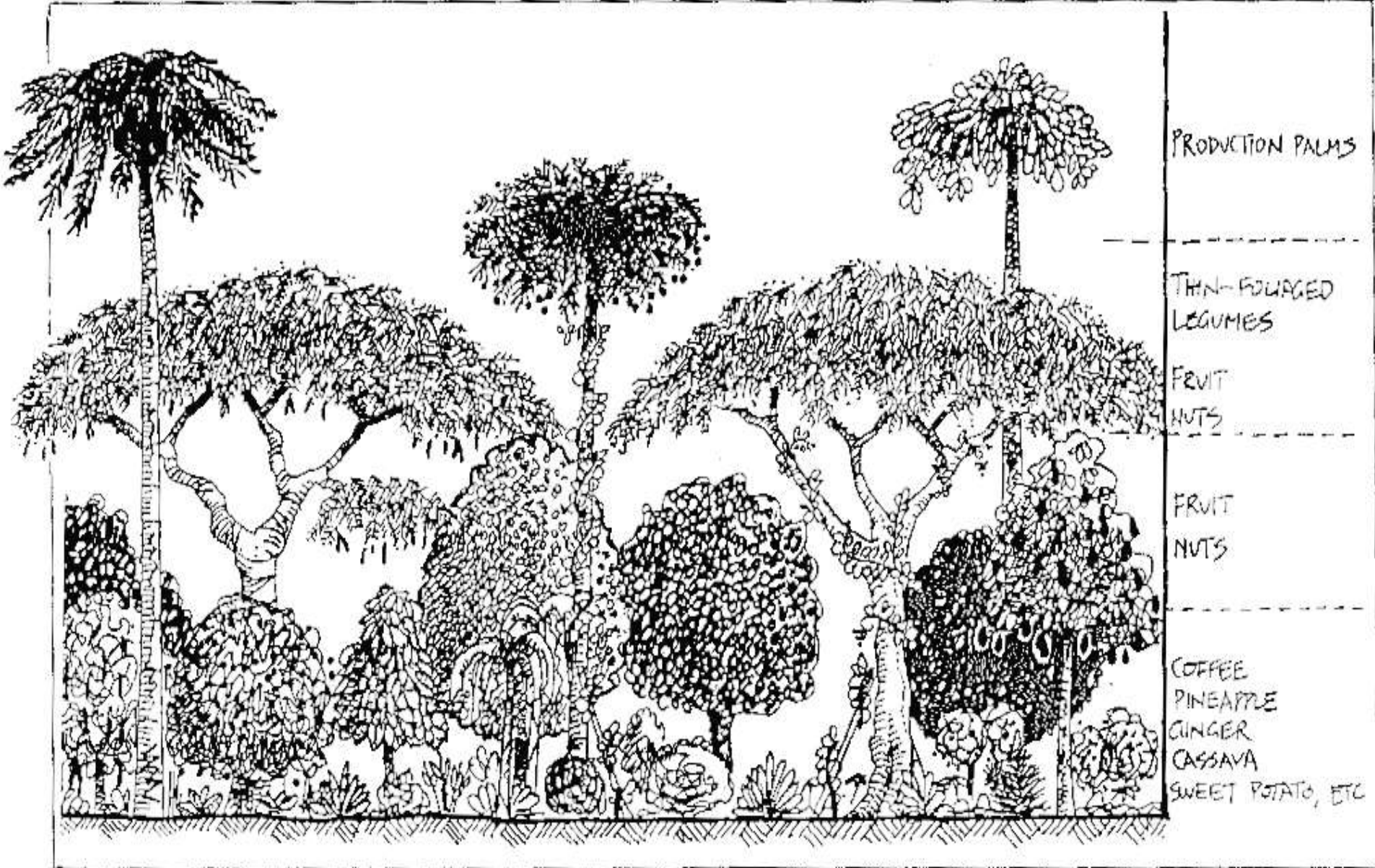




# Planting and Watering in







**FIGURE 6.3** The home orchard layout can be similar to tropical "stacking" of plants found in rainforest, where plants of varying heights share light and nutrients. In this type of system, a supply of water from dams is necessary to get through the dry season (if rain does not fall all year around).

# Food Forest Garden

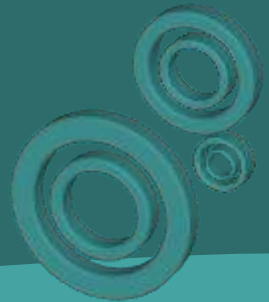
- Our sub- tropical climate lends itself to a polyculture system
- Food forest gardening is creating a micro- climate
- Water- wise *tropical* vegetables



# Water- Wise Tropical greens



# Home Bee Keeping



# Home Kill



# Sourdough bread, Wine





# and Cheese, and Butter making

