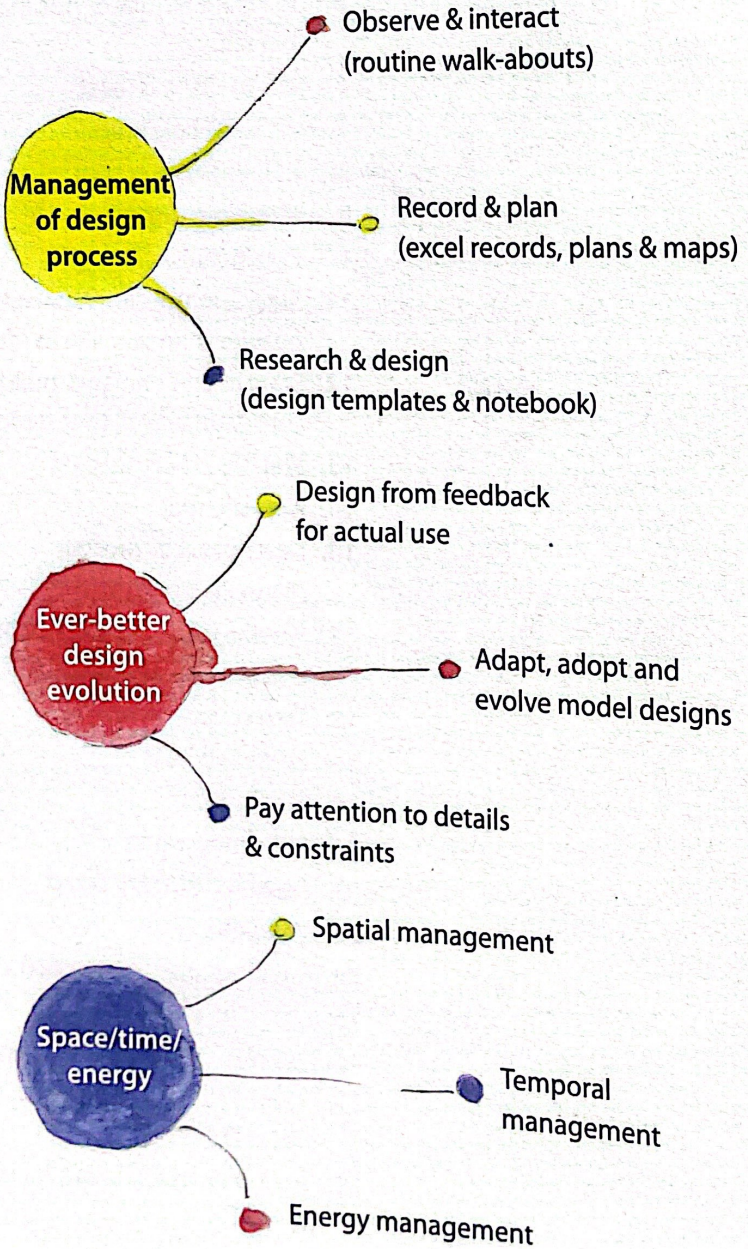
Design Management

Design management is the emphasis on design for better management. It is the management of the design process, the overarching goal of improved times/pace/energy productivity, and a commitment to ever-better design by allowing design the opportunity to evolve in an organic way.

Design Management



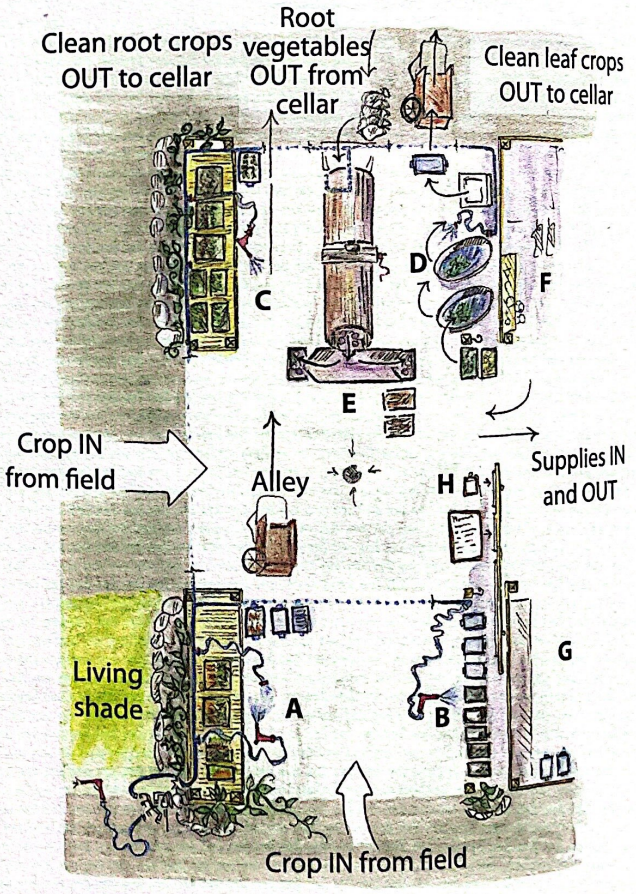
Let's look at these individually:

Design for Better Management

We can greatly improve our management of the farm with designs. It is easier to manage my wash station when it has a well-thought-out layout and the wash tables, bin storage

Wash Station Design

(Design for space/time/energy)

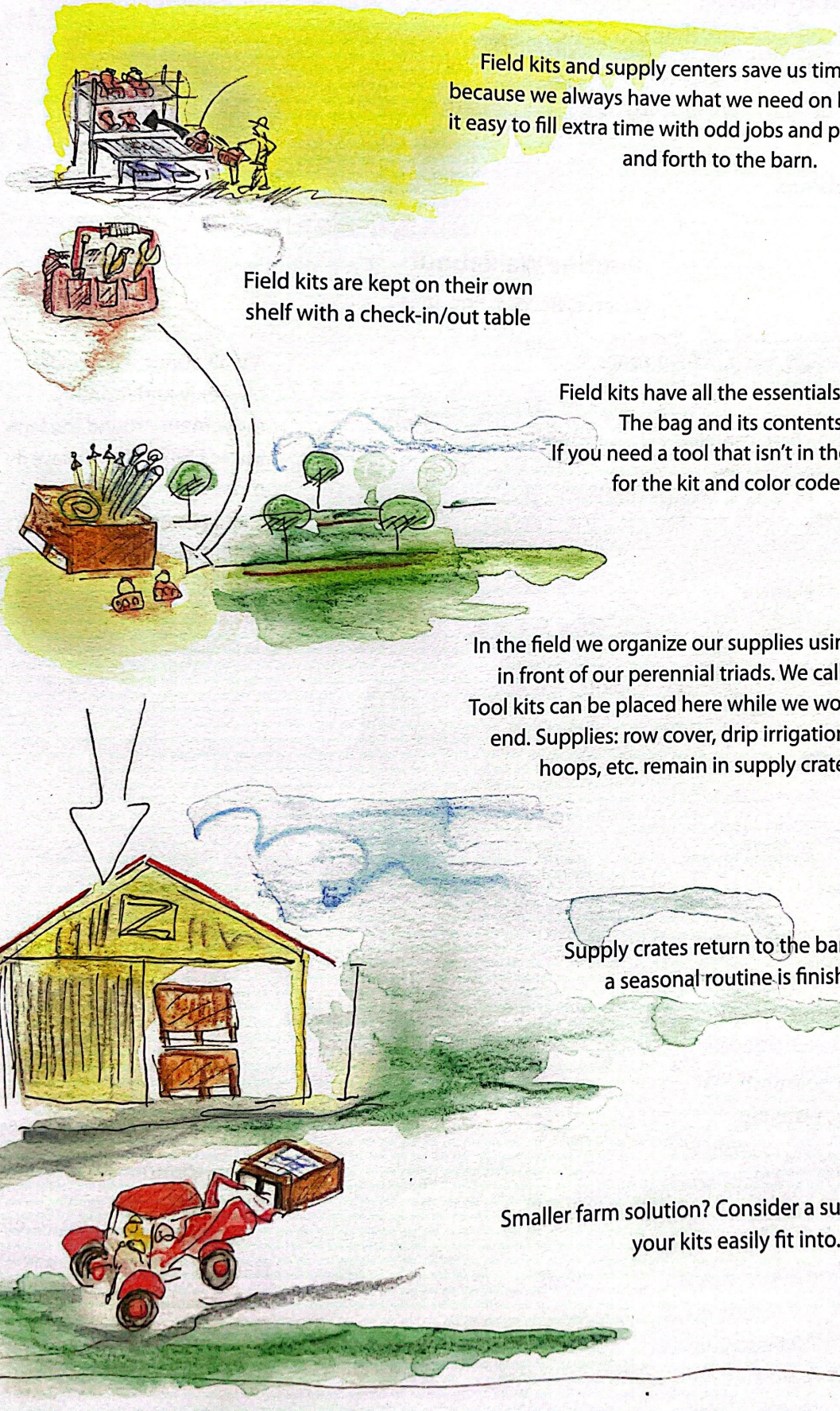


Design of our wash station for smooth crop flow, versatility of infrastructure. Overhead hose attachments make it easier to manage busy harvest days.

A) Primary wash table
B) Bin & crate storage
C) Secondary wash table
D) Washtubs
E) Harvest headquarters
F) Employee shelf and wash gear
G) Post-harvest supply storage

and harvest lists work together as a complete system. Obviously farms are doing this all the time. The question here is why aren't we doing it more intentionally as a matter of course.

Design for Organization

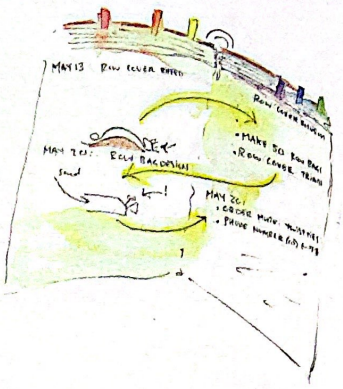


1. Management of Design Process

Design is far too important to just do willy-nilly. We must have a well-organized approach to designing to help us do it in a uniform and timely manner.

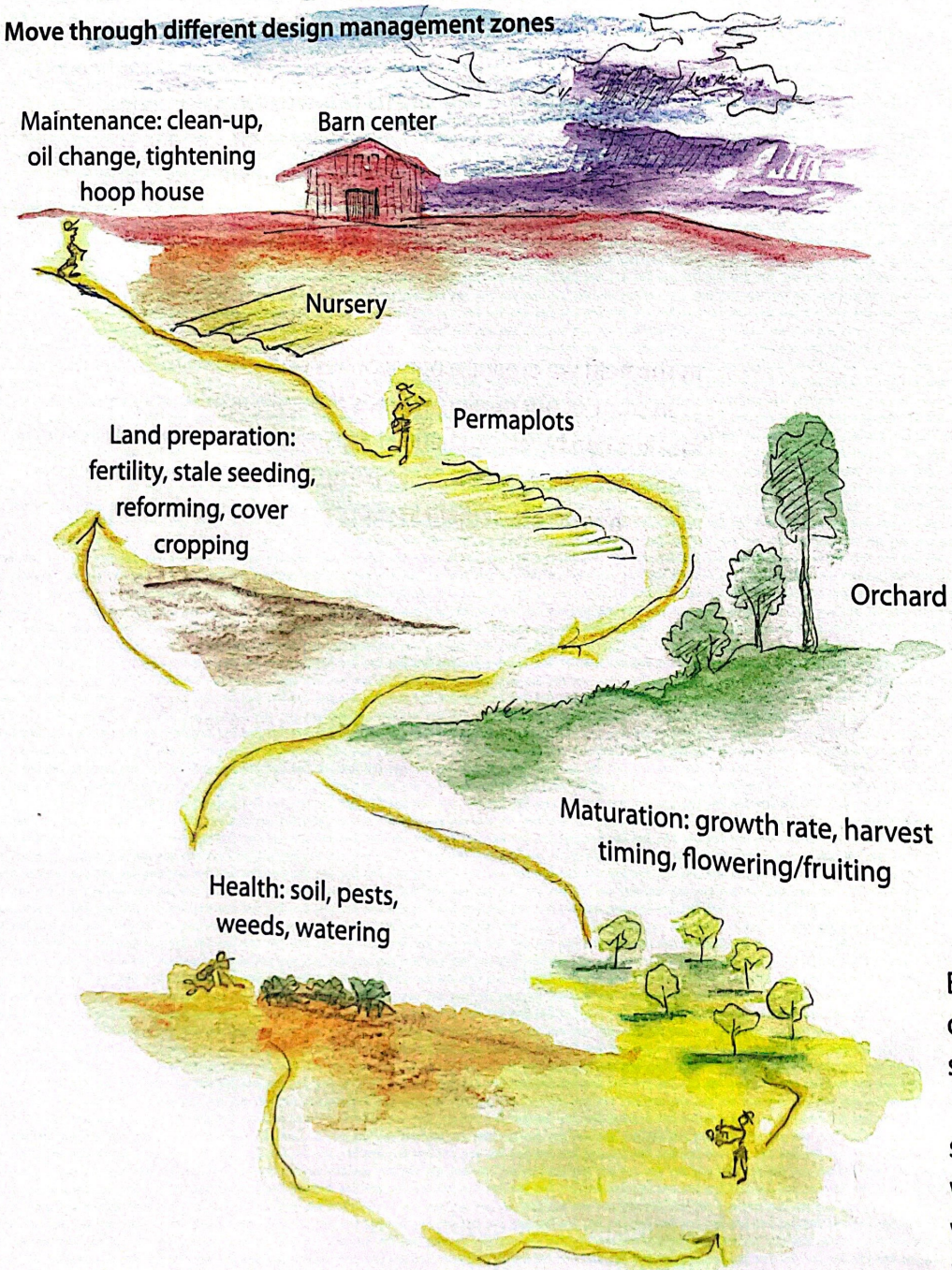
It is good to have systems that integrate observation, record keeping, research and actual hands-on design. We employ the following:

- Routine walkabouts
- Templates
- Design notebook
- Excel record sheets and crop plans
- Field maps
- A design notebook is essential for free-flow thought, observation and research and then concrete design ideas.



Routine Walkabout

Observe, Record, Prioritize



A walkabout is a weekly, biweekly and monthly movement around the farm. Some DMZs should have it more often.

It includes: observation, record-keeping and priority setting.

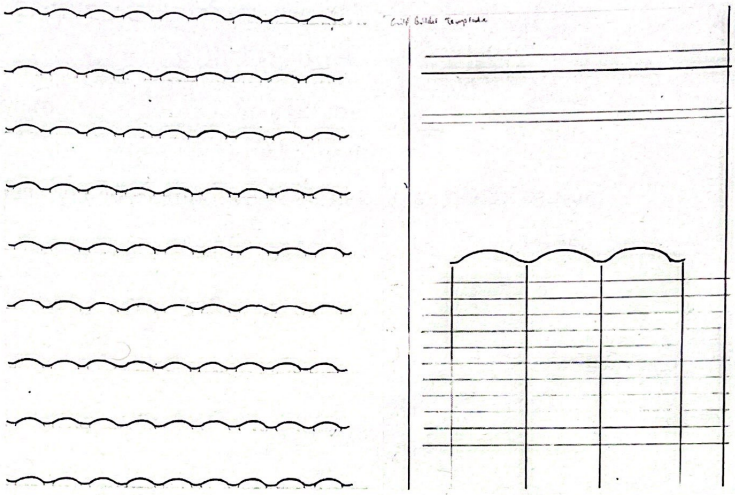
Bring record kit: record books, observation/record maps, to-do schedules.

I also bring field operation stakes, color-coded to prioritize which beds need to be reformed, which need irrigation and which need weeding.

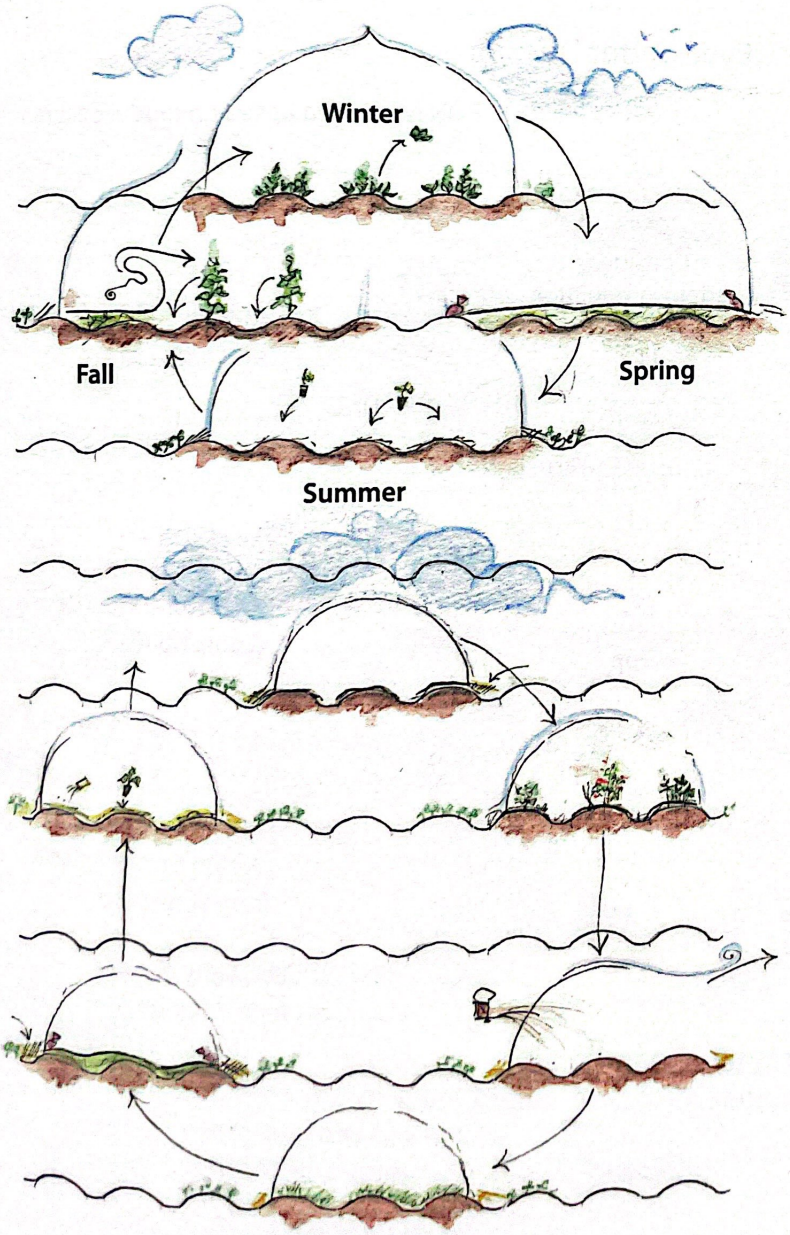
Example: Design Templates for Observation and Design

- Any design work I do on a regular basis deserves its own template to help the process and make it more consistent. See, for instance, this template to help me record and design layouts for garden plots.
- Excel spreadsheets are useful for records.
- I also use Excel for mapping gardens and properties.
- Our system of permanent raised beds make it easy to allocate space for crop trials.

Permaplot Template



Design Template Used to Brainstorm High Tunnel Rotations



A system must be designed for four seasons.

This includes thinking through what needs to be in place for a desired production at a desired time.

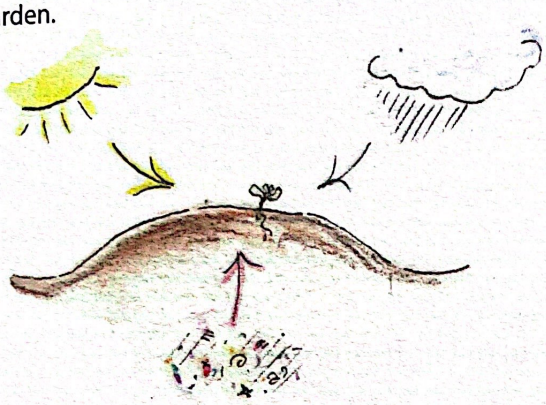
In full-cycle design, we discover opportunities for improved management and savings from space/time/energy relationships.

For instance, we used to try and cram our hoop house with crops in every season and then fill it with compost and quickly turn it over for more production. We save a lot of time by moving our hoop houses to new fertile ground and cover cropping the previous ground for slow fertility return.

Do You Know?

Understand your plants' vulnerability.

Young germinants are extremely fragile in the wind-whipped, sun-scorched, rain-spattered environment of a typical garden.

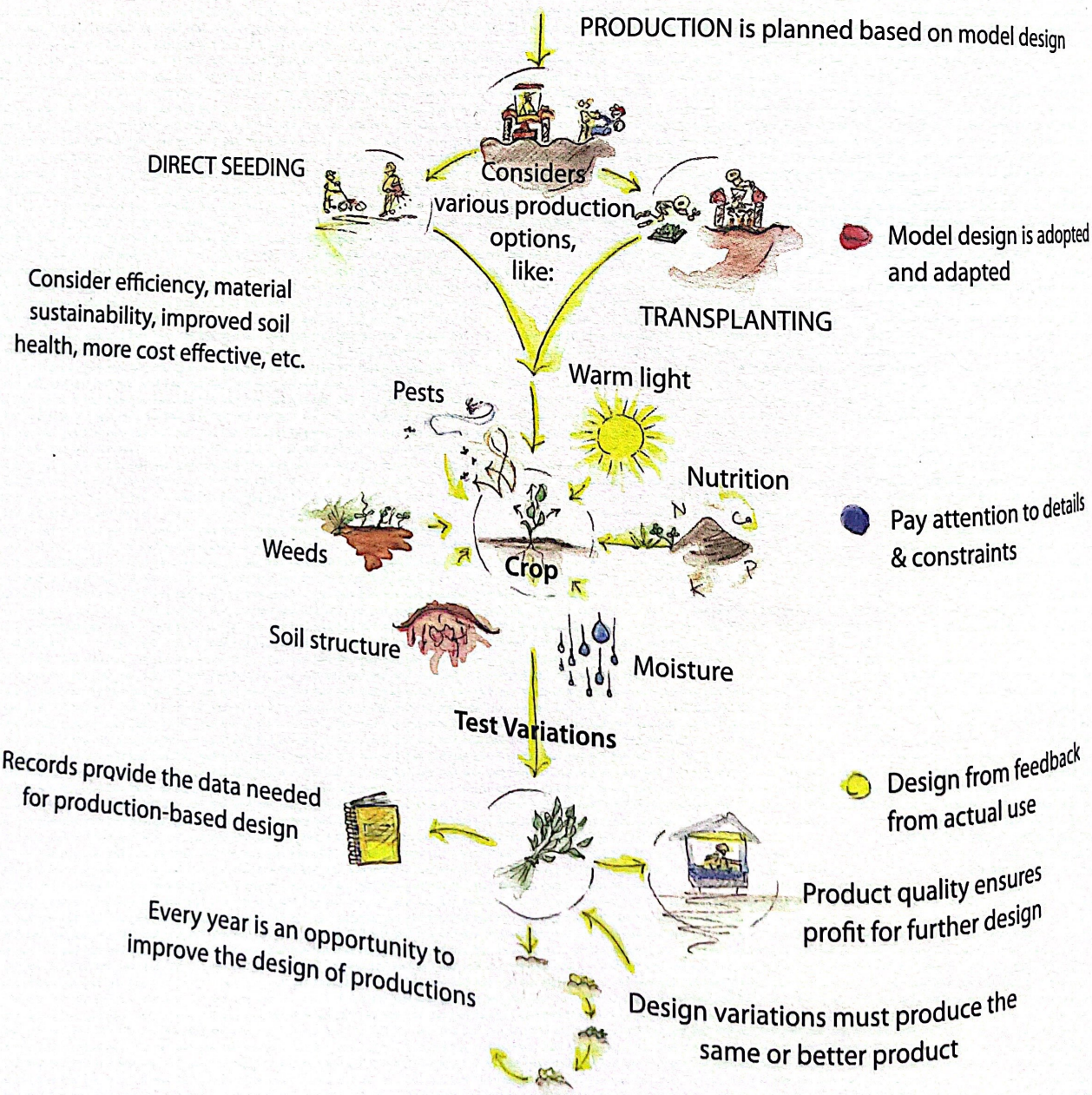


2. Commitment to Ever-better Design Evolution

Design for feedback. A design should not be a final product. Our wash station, for instance, should be ready to receive the feedback of *its actual use* and be remodeled to suit the processes better. Consider how to make your design flexible for improvement.

People satisfaction, operation efficiency and Soil improvement are benchmarks of a better design

Ever-better Design



DESIGN TIP

Design work requires time: set aside 1 hour/week; space: sit down somewhere enjoyable; and energy: bring your brain fired up and the tools of the trade

How can farmers better use space, time and energy now and into the future.

Model design adopt and adapt: Model designs are those we adopt from other farms because they seem like a good idea. Model designs must be adapted to your goals, land and situation. A design innovation from one farm will never serve you in the same way. We all have different microclimates, ecologies, tools, customers, etc. It is our role as design managers to take these model designs and work with them, trialing, observing.

Pay attention to the details: Better design is in the details. What makes a system run smooth is that packet of shearbolts on the tractor ready for when one breaks, clear labels on supply bins, easy communication for jobs to be done. For instance, we use to-do stakes to help delineate routine tasks in the field. Stakes with red tape mean the bed should be reformed,

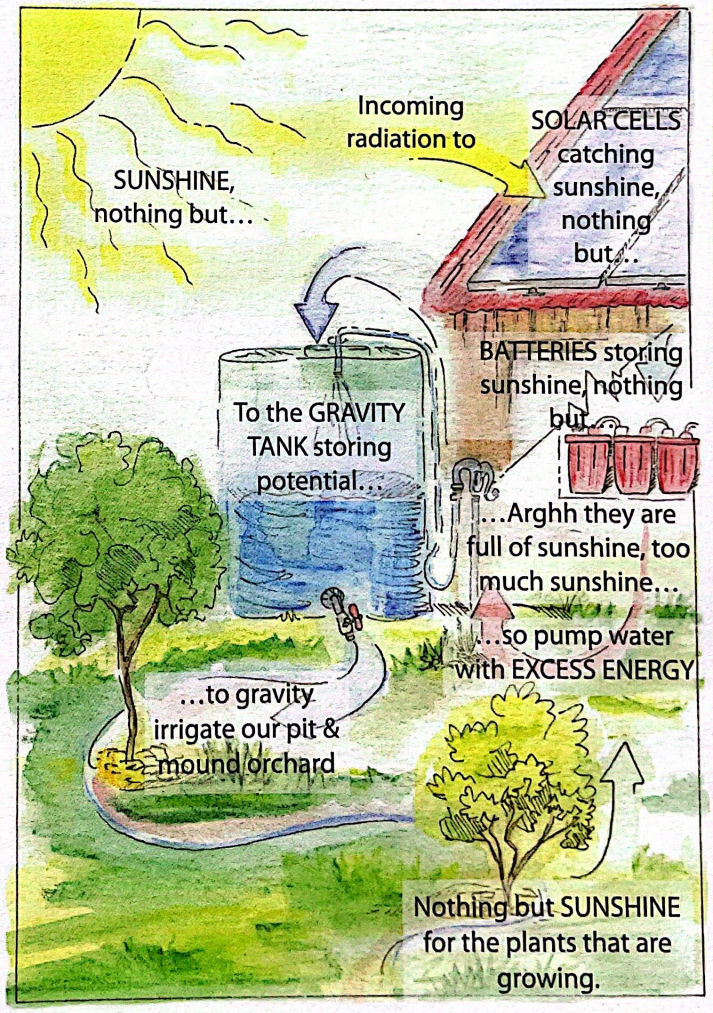
PLANNING TIP

Pay Attention to Constraints

When designing a crop's production system, pay specific attention to the natural constraints: preferred pH, soil moisture regime, maturity, etc. We must also consider other constraints: acreage availability, equipment costs, skills needed, etc. See if you can find key constraints (weak links) and design solutions.

Design With the Permaculture Principles in Mind

Catch & Store Energy



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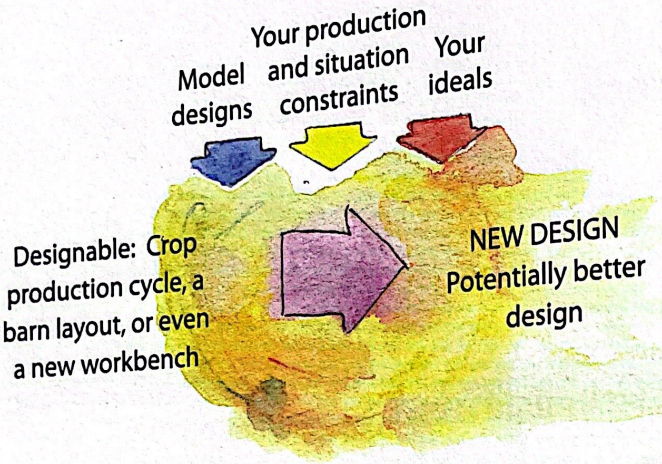
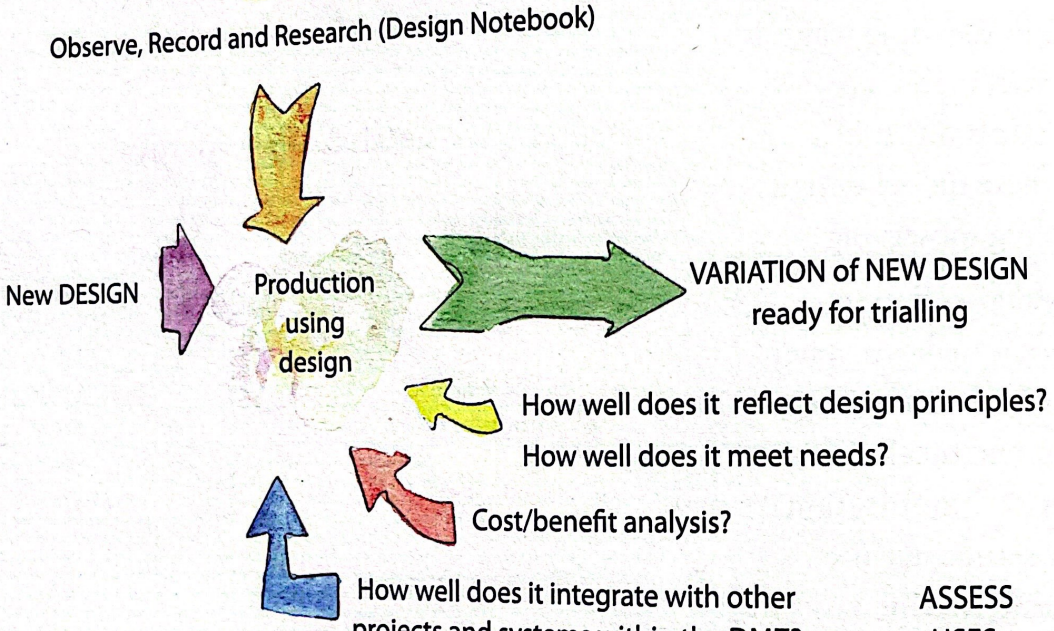


A MODEL DESIGN

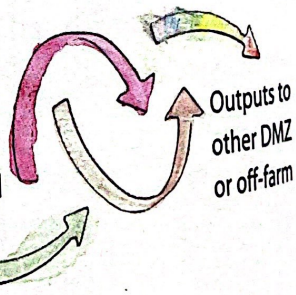
Any design you begin to adapt for your projects & situations, gleaned from other farms or inspired from other domains. It may have been used and trialed before and is now being applied in your context to meet your needs.

Design management takes model designs, your constraints and your ideals, and applies them to any designable (say crop production cycle) to produce a better design.



DMZ RELATIONSHIPS

ASSESS USES, EXHANGES, RECYCLING



DESIGN TIP

Always consider how a NEW DESIGN variation will interact with other elements within a DMZ. What new waste does it produce? How can it use other project outputs? Which resources and tools can be shared? DMZs are about mutualism, and changing one aspect requires consideration of its effect on others.

3. Improved Time/Space/Energy Productivity

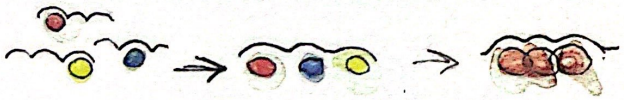
Everything we do on the farm is affected by time, space and energy. There is a distinct savings in labor, money and resources when any of these elements balance more favorably. For instance, do a job in less time (economy of motion) or do it with less space (integrated production).

Time management: Consider how many distinct motions are needed to transplant an onion.

Energy management: Consider inputs needed to plant this crop.

We must consider how much space is needed in time and with energy. For instance we leave more space in our row crops (potatoes, peas, beans), but it saves us energy [labor] and gives a great opportunity for early [time] cover crop establishment between the rows. We come out ahead with this design. Because three different crops can be designed for similar field management (such as hilling), we can plant more diversely without loosing efficiency. This is called umbrella management.

Umbrella Management



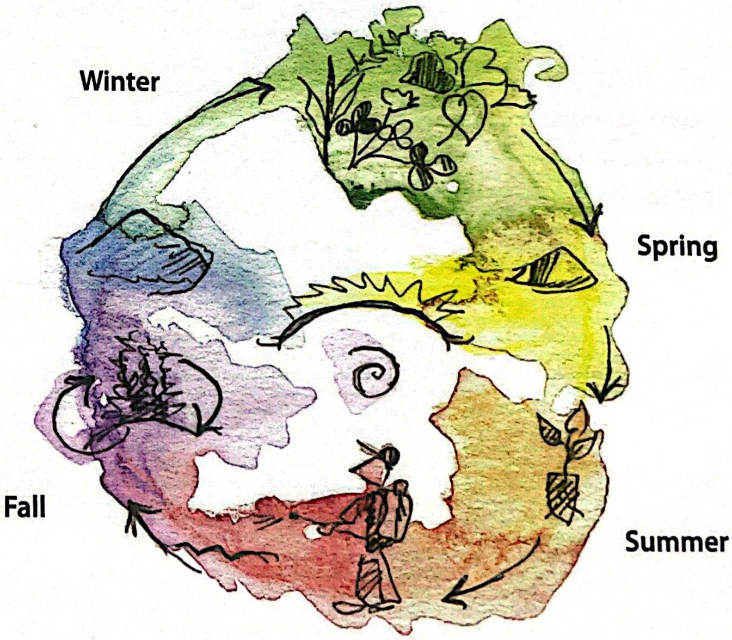
Three crops grown in triads with dissimilar management can form a triad with similar management.

Space management: Consider how much space is allocated to each plant and how we can better use that space.

Quality management: As market gardeners we must be interested in quality. Consider a spring turnip. It is a unit of energy. If it is half-riddled with maggots, then this lower-quality turnip is undesirable. It therefore justifies the increased energy of laying row cover to ensure it fetches the correct price.

Money management: We discuss this elsewhere. But here at least we can say that we must manage design so that is it financially viable. A design that uses little energy, space, time and produces a quality crop is no good if there is no demand for it.

Design management zones: Consider how best to use space relative to time and energy. One way to manage space on a property scale is through the designation of these design management zones, distinct places across your property with specific production centers. Consider our farm center DMZ with its structure, productions and process.



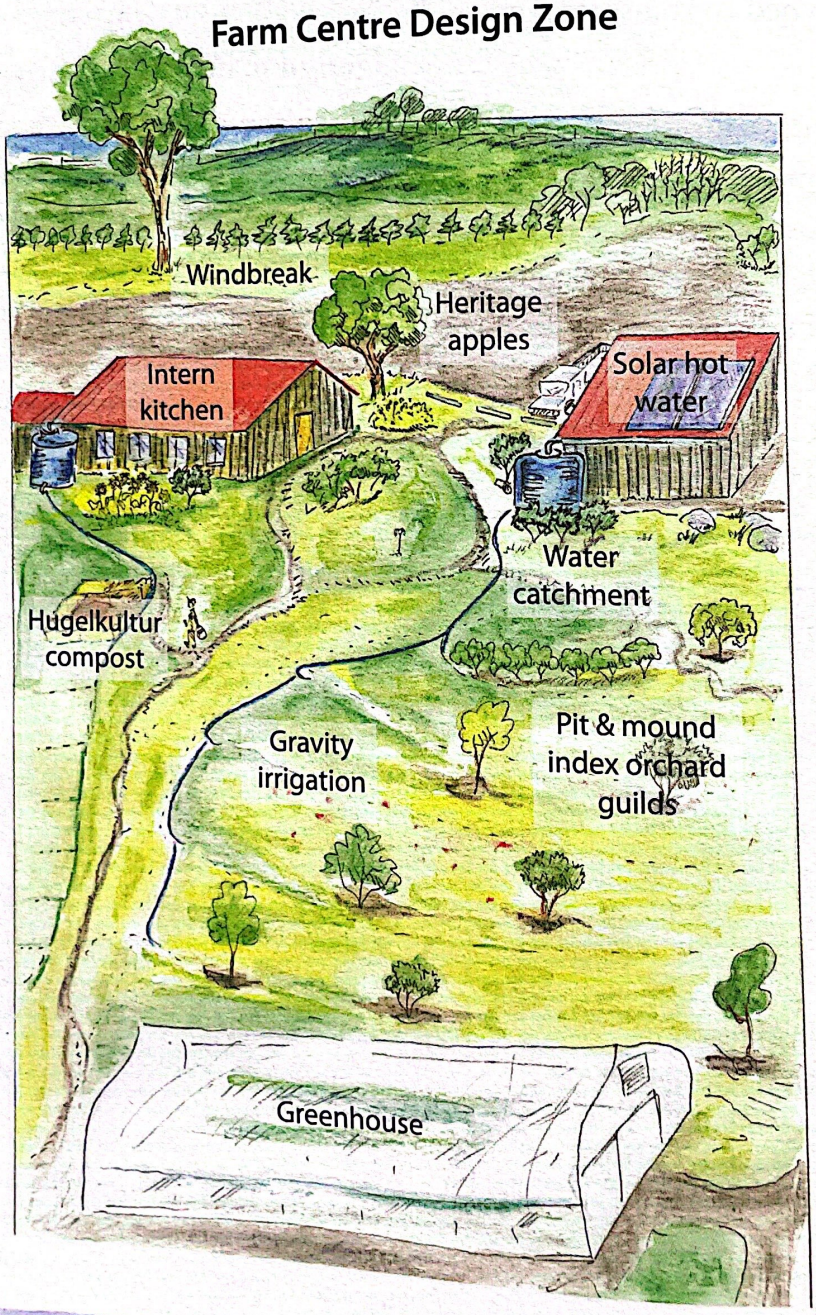
Seasonal schedules dictate what activities to expect in any one season. This helps us to look for opportunities to balance our agenda through the year, so we don't have a spring bottleneck or summer frenzy or jobs left undone in fall.

By defining exactly what goes on within a DMZ — the tools, skills and timing of operations — we can be better prepared for efficiency by design managing this piece of our operation. For instance, we are working to create field kits, protocol sheets and seasonal schedules for all our DMZs.

This help us reduce waste from running around the farm without clear job understanding, tools and timings. When moving around the farm, we do so intentionally and with what skills and tools we need.

Make connections between the spaces of your farm. Make them cooperative places.

Farm Centre Design Zone



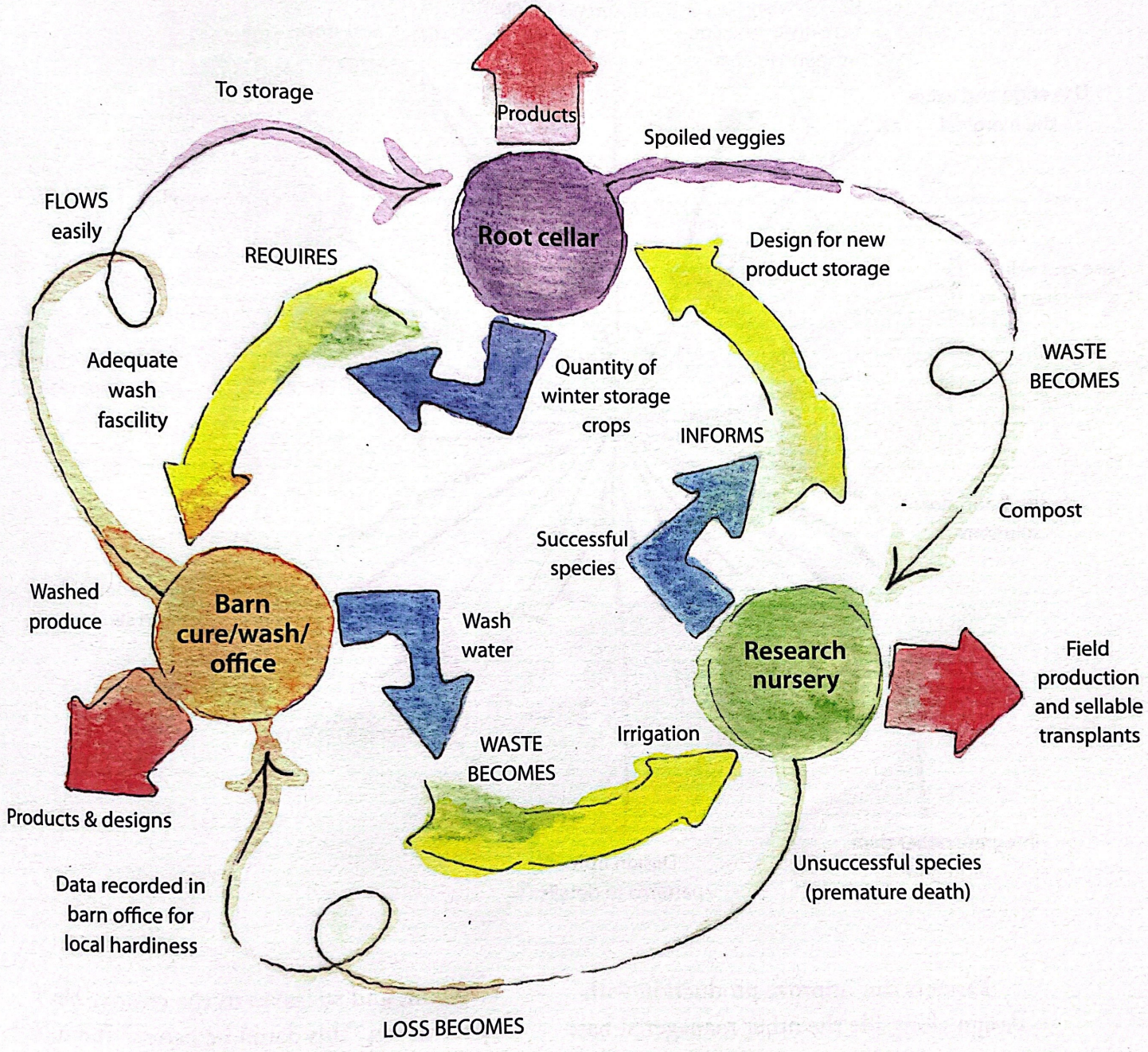
This area is the most trafficked zone. It is the connective tissue between living and working.

Index guilds can be planted in hugelkultur compost.

A model design is any idea from another farm (or elsewhere) that could be adopted and adapted to your situation. This could be an entire salad production system or just a salad cutting tool, a marketing strategy or an organizational concept like DMZ, it could be the plans for a curing shed or a cover cropping strategy.

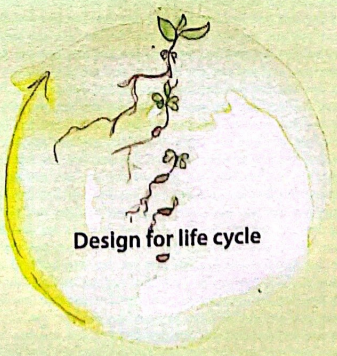
Design Management Zones Keep Time/Space/Energy Flowing

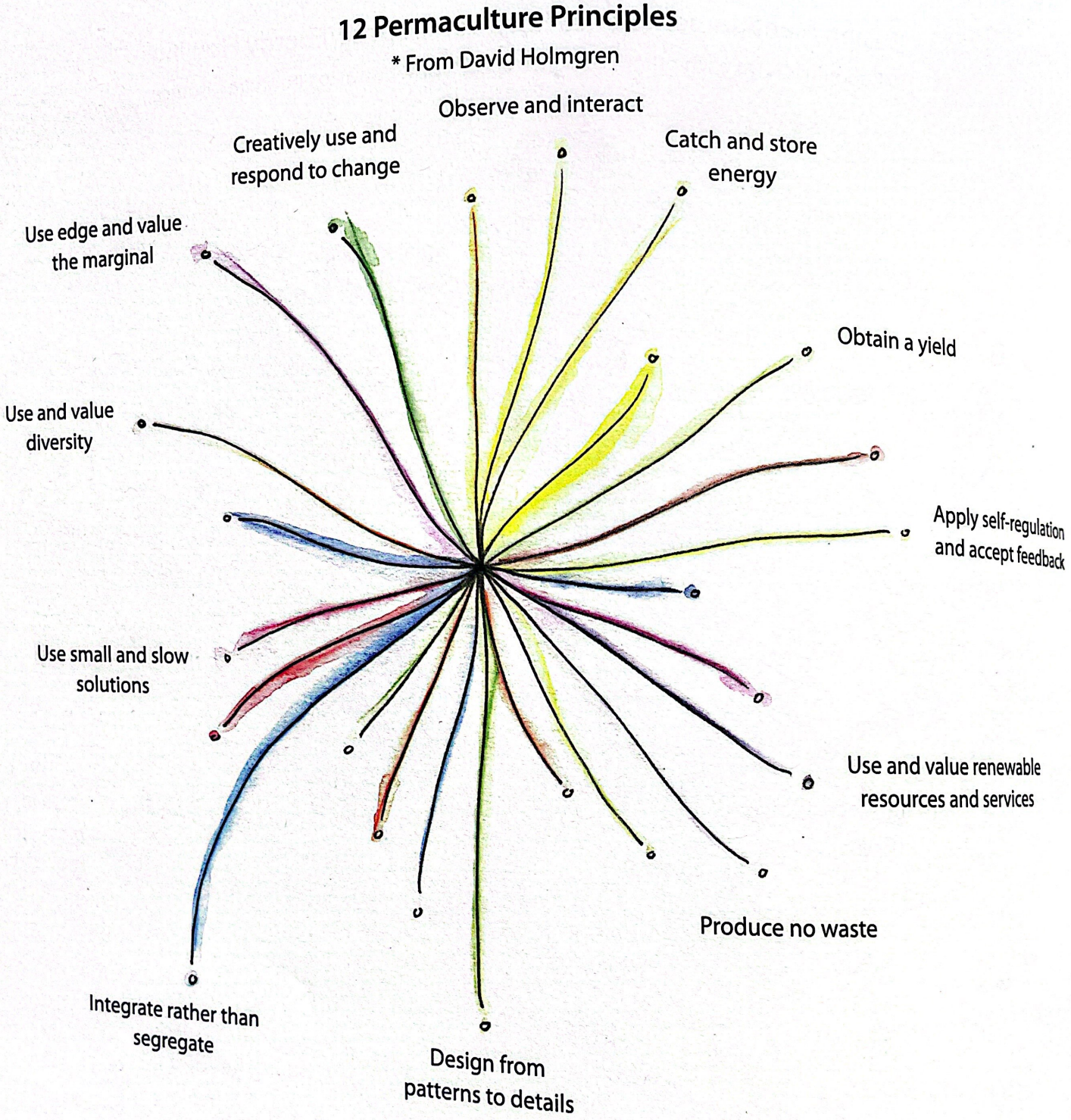
DMZ should inform each other's design, use each other's waste and share resources



Principle

Design considers the life cycle of the organism (crop, animal, tree). You cannot improve design unless you know the natural rhythm of a crop and strive to work within it.





Farmers can improve production with design alongside the other managerial hats we wear. Design management (as a model for the design process) has helped us innovate because it emphasizes that design isn't stagnant, and so leaves us the creative head space to say, "this could be better." It reminds us to focus on universal factors like time/space/energy and consider how they balance out in our designs.