

So you want to be a farmer!

By Bill Hill.

Bill is developing a methodology on the selection of land and development of farming systems that are better suited to the landscape conditions, native biodiversity management and other natural resource issues while also being productive and profitable.

To this end I have used the Natural Step methodology, developed by Dr. Karl-Henrik Robert, in Sweden in the early 1990's. With the help of 50 scientists, he developed a methodology with practical tools to assess our impact on the environment and evaluate decisions in terms of sustainability. The guiding principles are based on the laws of thermodynamics and natural cycles.

Phase 1. Building Awareness and Understanding

Generally this methodology will be used to advise and consult with people who seek to farm sustainably, but have little personal experience in managing a farm.

This exercise will be predicated on the following assumptions, the property will be a bare block and the client's intention is to run it as predominantly grazing enterprise. The property will be in a high visual amenity area, with good soil and a safe rainfall with scope for building a large rain fed dam for the stock and domestic water supply. The clients wish to become increasingly self sufficient and sustainable, respecting and enhancing biodiversity while running a profitable enterprise.

My preference would be to facilitate the purchase of the farm so as to maximise their investment, by matching their vision to an appropriate property.

After an initial consultation with a brief overview of the property and a discussion of their expectations, we would discuss their financial and physical commitments.

The next step is to have an on site meeting and "walk the place," during which time we will discuss their definition of and commitment to sustainability.

This is an important step in developing a scenario that aligns vision and values with the physical demands of running a property.

Once a future direction has been established and agreed upon, several more detailed strategies will be developed and roughly costed.

At this stage a computer generated farm map is developed to aid planning, it will have several overlays, including an aerial photograph to aid the physical planning process.

Early in the planning stage it is important to brainstorm ideas as they can all be given consideration and be prioritised.

Photos of the farm should be taken and matched with various infrastructure and improvements that will be necessary. For example a grazing enterprise will need an adequate water source and distribution system, handling

facilities, fencing, laneways and suitable shedding.

Bill's clients will be encouraged to include me in an on-site meeting with their bank manager and accountant. A formal meeting of all the major stakeholders should be initiated and run before any more money is spent.

Phase 2. Conducting a Baseline Assessment.

Depending on the client's finances and commitment to working in harmony with nature and managing for biodiversity we can use the Native Biodiversity resource kit, or a "Habitat Hectares" methodology to establish "where we are and where to from here." From this we can develop farm policies that are reflected in targets for native biodiversity management.

Once future direction has aligned values, vision and expected expenditure through a sustainable and planned process, it is appropriate to design and cost the necessary infrastructure. Accounts should be opened with a rural merchandiser and other suppliers. Contacts should be developed with stock agents and agricultural extension staff and land care personnel. The clients should consider joining the local landcare group and the local Country Fire Authority brigade.

Contractors can now be engaged to begin the implementation phase. This will allow works to be completed to a high standard, on time and within budget. It is important to have a five-year plan that allows expenses to be budgeted for and infrastructure to be planned and implemented in a strategic and logical manner.

Water is a primary requirement and it is advisable to site and build a large dam as part of a water management strategy. While the earthmoving machinery is on site, consideration should be given to construction of tracks and laneways, house and shed sites. A hole should be excavated for rubbish and any cleaning up is done, as well as any remedial earthworks for erosion control and ripping for tree lines.

The dam needs to be in a position that it can capture as much runoff as possible. I highly regard the work of PA Yoemans, keyline farming and water harvesting system, particularly in hill and undulating country. Springs, creeks and other water sources need to be assessed and factored into an overall water management strategy. A pumping system needs to be installed to deliver adequate flowrates to stock troughs. The polythene piping needs to be laid and troughs and ball valves installed as necessary.

Not all troughs need to be commissioned at this stage but it is advisable to do most of the pipe laying. Whether electricity is available or not, a petrol/ diesel pump should be purchased and installed, as a protection against fire.

Once the tracks have been formed, tree lines ripped and the poly pipe has been laid, it is time to begin the fencing program. This will consist in a mix of conventional and electric fencing (solar or mains) and be implemented in a logical and cost effective manner. The contractor will source the materials and

erect the fences that have been designed to a high standard to suit the application. Fencing will be determined by stock type and whether supervision is constant or periodic.

Tree lines would be fenced and planted with suitable range of locally sourced trees and shrubs. Preparation is the key to good establishment. Consideration to the establishment of an orchard and garden near the chosen house site should be begun, once adequate water and land preparation has been done.

Phase 3. Creating a Vision and Strategic Plan.

I would encourage my clients to develop their vision and produce it in a format that they resonate with and that draws them toward their goals.

Once there have been some realistic options developed, I would encourage the clients to complete at least one of the following courses. "Whole Farm Planning," "Grazing for Profit" , "Holistic Management" and "Permaculture Design" courses will empower you, while getting a general understanding of the principles and practice of sustainable agriculture. Further education such as Permaculture and Biological Farming courses will enhance their understanding and commitment to the process. Give consideration to joining grass and livestock groups such as "Prograze", "beef / lamb cheque" and similar farm focused groups, to meet and learn from other farmers and local extension staff.

Until my clients are proficient with stock selection and handling, I suggest that they assist livestock and learn by experience by helping to look after these animals. A good idea is to assist stock from a neighbour who is a good stockman. Your stock agent would be a good contact for advice about this. Quite, well-managed stock will "do" better and will not knock your fences and facilities about. Working in with neighbours is a great way to learn skills and get experience. You will also need a vet, neighbours can advise you on this.

The clients will now have become involved in the community, have established a network of suppliers and contractors and have begun to implement their plan.

Phase 4. Supporting Effective Step-by-Step Implementation.

As well as being financially viable, the farm will be run in an ecologically friendly manner. In this section I will deal with the necessary steps to remain sustainable while enhancing productivity and viability.

This is a sustainable whole farm management system, which is widely applicable, easy to use and robust. It is a methodology that will continually move the land managers toward more sustainable agricultural methods while enhancing biodiversity, wildlife habitat and eco system services.

It provides a farm management system that integrates the triple bottom line in a holistic framework that is realistic, organic and encourages active stewardship of the environment.

This methodology expands the context within which sustainability with key farming practices can be integrated and is simple and easy to use. Integrated targets for biodiversity are intrinsic for good practice in the context of sustainable farming.

The following steps are a list of issues that will need to be addressed in an effort to become truly sustainable; they stand as a checklist to be addressed when the occasion demands.

Economy - the effect that the farmer's impact on the local economy and employment. Rural merchandiser, contractors etc

Aesthetics - Visual impact and amenity, the effect on the built environment and landscape design, including heritage and noise issues and requirements.

Design- How to design the farm, infrastructure and management system to use a minimum of non-renewable energy and resources.

The reduction of fossil fuel usage and its replacement with alternative energy sources where possible and practical. Permaculture principles should be examined and integrated into the initial design process. Address energy efficiency and use of products materials that enhance low energy consumption.

Natural Resource Management- to promote sustainable soil and water management. To deal with soil erosion with fencing and earth works and soil compaction with ripping and aeration. Use only sustainable cultivation and cropping practices. Water resources need to be managed and harvested in sensitive manner and irrigation be well researched and use only drip or spray, rather than flood.

Grazing and grass management- Rotational grazing should be implemented to enhance livestock production. Soil tests should be used to assess fertilizer and liming.

Stocking rate can be improved by correcting phosphorus and trace element deficiencies on the most productive parts of the farm and by increasing pasture utilisation through grazing management.

Biodiversity can be improved by managing stocking rates to encourage regeneration on the least productive parts of the farm.

Shelter and perennial cover can be increased by strategically grazing hilltops exposed slopes and waterways and fencing paddock trees and remnants to establish clumps to improve stock shelter and native habitat.

Conservation Management- Actively manage shelter belts, streams dams, riparian zones, drainage lines, woodlots, agroforestry, for livestock shade and shelter and wildlife habitat.

Pest plants and animals- the effective management of pest plants and animals and the responsible use, storage and disposal of these pesticides, herbicides and rabbit and fox baits

Waste management

The responsible collection and disposal of oils, plastics, silage wrap, packaging and pesticide containers.

Infrastructure-An aim to use contractors to supply machinery and labour to develop the necessary infrastructure.

To be aware of and minimize as much as possible, the use of vehicles powered by non- renewable resources.

Public Welfare

Consider the access to the property by interested parties who would like to learn from your experience and applied in the quest for sustainable development.

Conservation and Biodiversity

The implementation of a stand-alone conservation management system to promote best practice, this could include such methodologies as "Habitat Hectares" and the "Native Biodiversity resource kit."

This is a forward-looking approach that allows an asset to be managed according a set of practices that will allow the farm to reach its full potential over time. This methodology will enhance the quality of biodiversity and natural resource assets while enhancing productivity and real estate values. Continuity, connectivity and linkages will be planned and implemented in a sympathetic and inclusive manner, with neighbours working together for the greater good.

Creeks, dams and drainage lines will be managed to improve water quality and prevent nutrient loss, the use of strategic fencing and biological filters will enhance outcomes. Woodlands and agroforestry will be managed for a variety of outcomes, including extra income, livestock shade and shelter and wildlife habitat. Native pastures and remnant vegetation should be managed for their unique production and ecosystem service benefits.

The intention of using this methodology is to provide a "fingerprint" of sustainability for each farm on which it is applied.

By creating a baseline and continually gathering useful information through experience, observation and good records, they can direct positive changes in our farming practices. This will allow them to move toward their goal of becoming ecologically sustainable, economically viable and socially responsible.

Bill's Vision

We will run our grazing enterprise in an economically viable and ecologically

responsible manner, respecting and enhancing biodiversity. By using regenerative management practices we will work in harmony with nature to achieve a happy and rewarding lifestyle.

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