Stewardship of the rural environment: care, use, enjoy—and rest!

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Abstract

The early chapters of Genesis present a theology of creation and provide humans with the authority for its care, use, enjoyment and for rest. These themes help to define the concept of stewardship with the associated responsibility which humans have for the earth, for its creatures and for each other. Our failure to care for creation and in particular the rural environment is identified as the result not only of human sin but also of technical ignorance. Our experience and the examples given suggest that our continued use of the rural environment is only likely to be care-full if it is based on a productive system which can justify the cost of a continuing program of research to eliminate the damaging inputs and a willingness to pay for the real costs of the production of our food and fibre. This subject is important because it is fundamental to life on earth, because the rural environment and our agricultural industries are obviously suffering from our lack of care and because this failure will continue to affect all of society.

Key words

Creation, care, use, enjoy, rest, stewardship, earth, rural environment, agriculture.

1. Introduction

Our failure to care for creation has become a common and significant theme for publications over recent years and the need for greater care has been accepted, in principle at least, by most people in society. However it is desirable to move the discussion forward and ask more specifically how such care might be expressed and what are the impediments to and the technical, administrative and other resources necessary for its adoption.

In Christian terms our lack of care has usually been expressed as the result of both personal and societal sin. However experience and the examples presented suggest that much of the damage to creation is not only the result of specific human sin but also of our misapplication of technology, our failure to understand what might be the result of our actions and our inability to mitigate the damage which they might cause.

It is argued that continued use of the rural environment is therefore only likely to be care-full if it is based on a productive system which can justify the cost of a continuing program of research to eliminate the damaging inputs and a willingness to pay for the real costs of the production of our food and fibre within our agricultural industries.

This subject is important because it appears, from its introduction in the creation narratives and from our science and husbandry, that it is fundamental to life on earth. It is also important at this time because the rural environment and our agricultural industries are obviously suffering from our lack of care and because this failure will continue to affect all of society. In addition the subject is of personal and professional interest to the writer.

2. Perspectives from the creation narrative

It is appropriate in any consideration of the rural environment to begin with the first two chapters of Genesis. Here the elements which are features of the rural environment (and much else) are revealed, pronounced good and given to humans for their care, use and enjoyment. An opportunity to rest completes the narrative.

The creation story is told in Genesis 1, not in scientific terms or in a chronological sequence but in a literary pattern of three pairs of 'days' of creation and one 'day' of rest (Thompson 2007). The meaning of these verses (particularly 1:1–25) has been widely discussed elsewhere (Alexander 2008, Dickson 2008) and it is not my intention to consider them here or to imply any particular view of how creation occurred.

In the following paper the themes of care, use and enjoyment of the rural environment are considered firstly in relation to 1:26–2:24 and then explored in the light of the Australian experience.[1]

Care

In Genesis 1:26–28, which follows the revelation of the creation of the earth and in particular the vegetation (Day 3) and animals (Day 6), the 'care' aspect of these 'creatures' is introduced in terms of having 'dominion' over (ruling or managing) the earth and its various creatures

1 The further exploration of these roles as they are applied in the story of the Hebrew people in the Old Testament and the Jewish and Christian people in the New Testament would provide a rich vein of understanding for their application to agriculture and the rural environment in our modern world. See for example the more general study in Wright (1997).

(vv. 26, 28), of 'filling' (replenishing) it (v. 28), and of 'subduing' it (v. 28). Other verses identifying the human responsibility to 'keep' the garden (in the context of 'till and keep', 2:15) also suggest ruling and caring activities.

These are all active roles and when taken in isolation they have been the cause of misunderstanding particularly by White (1967) but also many others. Notwithstanding the argument that these verses are used by some to justify the misuse or exploitation of the earth, they are given in the context of humanity as the 'steward' of the ruler (discussed later); nowhere do they provide biblical mandate for care-less use of the earth or its resources. Quite on the contrary, the law and the prophets given to the Hebrew people build on the creation mandate and reiterate the need for them to care for the earth, for their own people, for 'the stranger within their gates' and indeed for all living creatures (Wright 1997).

As Wright asserts it is the image of human beings, created in 'God's image' (v. 26), which justifies our being entrusted with this role of serving God as co-ruler and co-creator of the earth.

Use

The creation narrative also involves the gift of and authorisation for use of the earth and its resources. Genesis 1:29–30 identifies the primary resource which is given to humans and to other creatures: green, seed bearing plants. They are even defined by the two significant characteristics of the plant kingdom—green (allowing photosynthesis for growth) and seed bearing providing the germ of life but also concentrated protein and energy for re-growth and for food.

The command to 'fill the earth and subdue it' (v. 28) obviously involves 'use' as a result of the increase in numbers of people and creatures and the associated work as legitimate and necessary for humans made in the image of God the creator. More specifically Genesis 2:15 identifies the human responsibility of serving as the gardener to 'till' the earth, in the context of 'till and keep' (use and care) and the privilege of eating of its fruit (with one exception). This also involves work to produce food from the earth's resources.

Enjoy

In the retelling of the creation story in Genesis 2, v9 mentions trees, which were 'pleasant to the sight and good for food', are given to humans for their enjoyment and use. This is the only specific reference to 'enjoyment' although other verses imply that the result of care and use will result in the pleasure that creation (1:31), fruitfulness (1:28) and sharing brings. Such human enjoyment is perhaps a reflection of God 'resting in' creation (see on) and 'enjoying' it.

The enjoyment that man was to have is heightened by the presence of animals that had been created (Genesis 2:19) and by their being known by the name which he gave to them in what is the beginnings of animal husbandry and science.

However because of his aloneness, man's capability as a worker (Genesis 2:18) and his enjoyment as a human (in contrast to the animals) is still not complete (Genesis 2:20b). So a 'human' who, at least in a physical sense, is closely related to him is created (v.21–22) and becomes his 'woman' and ultimately becomes one with him (v.24) in a new creation.

Rest

We can identify the final 'act' in the great creation narrative as one of 'rest' (2:2–3). This was the signal that the work was finished, that all was 'good' and that the creation was (at an initial level) complete. So God rested on the Sabbath and in doing so established a series of regular rest periods including one day of rest in seven for all creation and for all time.

As Blocher (1984) states:

> ... the climax of Genesis 1 is not the creation of man the worker but the institution of the Sabbath for man the worshipper; it is not our toil (subduing the earth) but our laying aside of our toil on the Sabbath day... We human beings find our humanness not only in relation to the Earth which we are to transform but in relation to God whom we are to worship; not only in relation to the creation but especially in relation to the Creator. God intends our work to be an expression of our worship and our care of creation to be an expression of our love for the Creator.
>
> Blocher 1984

In summary we see the creation narrative includes the themes of care and use, enjoyment and rest—themes which define the roles which humans have been given and confirm our belief that such roles are theologically and morally legitimate (Wright 1997).

3. Stewardship

Stewardship as a biblical image

In order to understand our relationship to the earth we need to consider briefly how the themes discussed above are to be worked out in human life. Why should we care for the earth? How should we use its resources? For whose enjoyment are they given? What is the purpose of human life? The idea that best describes the human role is that of 'stewardship'. While the word is not used directly in Genesis 1 and 2, the idea is widely used in the Bible generally and is inherent in many stories and commands in both Old and New Testaments.

The role of the steward is spelt out by Hall (1990):

> The steward was a servant but not an ordinary servant who simply takes orders and does the bidding of others. Rather he ... is a rather superior servant, a sort of supervisor or foreman who must make decisions, give orders and take charge ... one who has been given the responsibility for the management and service of something belonging

> to another; his office presupposes a particular kind of trust on the part of the owner or master.
>
> Hall 1990

Hall goes on to explain that in the Old Testament the latter is usually a king or ruler and illustrates this by giving examples of the stewards for Joseph (Gen. 43), King David (1 Chron. 27-28) and King Nebuchadnezzar (Dan. 1).

By reference to a story in Isaiah 22, Hall (1990) also emphasises the fact that,

> ... however important the steward may be ... he is neither ultimately authoritative nor irreplaceable. He may indeed be a superior servant ... but he is still a servant and if he forgets this and begins to behave as though he were himself unambiguously in charge (i.e., not accountable) he shall be dealt with most severely.
>
> Hall 1990

These principles of stewardship are promoted, quite explicitly, in the story of the Hebrew people as the principles by which they, as the people of God, were to live in the land which they had been given. Their faithfulness in the application of all three of these principles to the care of their land, to its use for the support of human and animal life and the enjoyment of all was reflected in the condition of the land and its environment. This ultimately was a measure of their faithfulness to God and to his commands about how they were to live.

Stewardship by the carer and user

These principles of stewardship are of course quite general and, although written in a particular context, nevertheless are intended to provide ethical guidelines of universal application. They are also important to us because in practical terms, 'care', 'use' and 'enjoyment' are *still* intimately related.

Hence we, in later times, in other places and different technological worlds have to 'read off' their application to our situation. This suggests that in any local statement on the environment we need to recognise the importance of these principles and use them to help us shape our theological and practical understanding of the care, use and enjoy aspects of our land and its resources. This is so particularly when we begin to exploit the earth more intensively to meet the needs of increasing populations and wants represented by increasing per capita demand.

Recent discussion in the Christian literature of the general subject of environmental concerns is often limited to establishing the case of human failure to 'care' for creation on a 'sin–redemption' grid (Berry 2000). Thus failure is expressed in terms of the general sinfulness of human nature and as a result of the specific sins of commission or omission by individuals, companies, communities and nations—sins of ignorance, greed, arrogance and aggression (Russell 1994).

The solution is often expressed in very general 'caring' terms and is directed to 'Western' consumers to avoid waste, over-consumption and the use of products which pollute the environment or which deprive producers of reasonable returns for their products. While the causes listed above and the need for caring is valid, the literature leaves much unsaid in relation to what it means to care for the earth in the light of the range of climatic, socio-economic and technological conditions in the world.

It seems that the literature and declarations about the care of creation have served their purpose and that there is now general agreement that there is a serious problem with the way we live (Berry 2000). There is therefore less need to argue the general case for care and a more urgent need to consider how we should deal more specifically with the existing damage in individual situations and how we might live and change our ways to avoid such damage in the future.

4. Application of care, use and enjoy

Lack of care

A lack of care can emerge from both spiritual and technical 'causes' which, as shown in the following examples, may be confounded.

- *Some of the issues are fairly simple, the solutions are well known from intuition, simple experience or research and the need for action is generally accepted.*
  Tree planting in waterways is a good example and is generally being pursued with Government support and goodwill on the part of landholders and public authorities. One could identify the clearing of such waterways in Australia last century as greed but, with low production, achieving enough cleared land to live on required a maximum area for production. This and the lack of understanding of the nature of our erodible soils was hardly a sin although it was a grievous error.
- *Lack of care can also arise from a fundamental lack of understanding of the way the creation operates.*
  The current disagreement about the causes of global warming illustrates the fact that the natural causes for the production of green-house gases are confounded with the human causes which arise at least partly from the sin of greed.
- *Perhaps it is clearer that lack of care is a sin when it results from greed which disregards the creation in ways that could, from observation, experience or simple research, have been seen to be care-less.*
  The disposal of pollutants from the early industrial chemical plants in Europe is an example of lack of care, not only of the rivers but towards those who lived near and worked in the plants (Russell 1994).

More generally there has often been a general lack of concern for the care of creation in the urban community. This is a carry over from earlier times before the industrial revolution when the population was much smaller, the per capita demand was less, hence the demand for resources was low

and pollution was diffuse. We have continued to base our societies on the assumption that these conditions still apply and have only realised recently that in many areas they do not.

On a world scale the two major political philosophies and the various religions have not developed alternative systems for the care of creation which have been widely accepted. For example, notwithstanding the Judeo-Christian world-view as a basis for Western societies the idea of 'stewardship', which is inherent in it, remains a 'Christian' ideal. The rejection of an active Christian world-view by many has necessitated the development of a more secular and humanistic basis for care.

With technological developments, particularly in industrialised and urbanised countries, came the acquisitive society and, at least until quite recently, little more than a nominal interest in the care of creation. As more people demand more so we impose a greater load on the environment both in terms of consumption rate and total quantity.

There is evidence that for many natural and human systems, without special provisions, the rate of damage increases as the rate of use increases. And enjoyment (or its 'correlates', say, efficiency, having enough, feeling good, being relaxed, etc.) often come a poor third. The command 'You shall not muzzle an ox when it treads out the grain' (Deut. 25:4) is a simple example of ensuring care for the ox (sufficient food) and enjoyment (at least avoiding hunger) while not trying to obtain maximum use.

On a more positive note it seems that when we do get a consensus that there is a problem and agree on a more care-full solution, we are willing to act with commendable care. When the use of fluoro-carbons as propellants in pressure packs was understood as a problem and a solution was found, there was ready acceptance of the solution.

Our cities and their marketing systems with demand for all-year product availability have separated the understanding of many about the land and its seasonal production. As a result we have insulated ourselves from many aspects of creation that would sensitise us to the need for its care and allowed us to live in ways that are heedless of that care and its Creator.

Care, use and enjoyment are the elements of our relationship with creation and a minimum of each must be present if that relationship is to meet the needs of the human person. Too often however one or other of these elements are transferred between nations and societies to the enjoyment of one and the dis-benefit of the other. For example, the use and trade in luxury products for the enjoyment of one community can distort the socio-economic conditions in another and preclude the use of land for the necessary production of staple products required for the local communities.

What care, use and enjoyment means for any society depends on its circumstances, particularly its natural and human resources and its degree

of development. This opens a vast subject that is beyond the present paper and author so a more limited consideration will be given to agriculture and the rural environment in Australia.

Care, use and enjoyment in agriculture

Of the features of earth over which we have significant control, land (top-soil), water and atmosphere are the most important, followed closely by their combined output of plants and animals. Agriculture, and particularly modern agriculture, is highly complex and variable and it is frequently not clear what 'care' means or which 'operating system' is the most 'care-full'. This is significant where rural life is or is seen as backward and agriculture as antithetical to sympathetic stewardship of the land.

So the question might be asked, 'How will we measure 'care'? or 'How will we know that we are caring or not caring?'. The answer might only be discovered from long term research or when it is too late and evidence of our failure is obvious for all to see.

Use must proceed while care is taking place because generally one cannot just have care or enjoyment, at least in the long term.

For example in agriculture and in other industries:

- use requires care to enable it to continue;
- care requires use to enable it to be financed.

Also, if society is to live above the subsistence level:

- it needs to produce more than is required for mere care;
- it also needs more still in the good years to provide a buffer against the years in which it gets less than the minimum required to live.

But further, if society wants to:

- give or trade some of its produce to sustain others and so allow the purchase of items that it desires, it needs still more;
- support its poor, needy, old and the sick as well as those engaged in production, then even more is required.

Super imposed on all of these is the production required to meet the costs of the inputs—seed, water, tools, fertilizer, transport, etc., etc.

Care, which might be considered one of the 'costs' of production, is such that it can be put off; other costs may be seen as more demanding and urgent. So in effect we begin to 'mine' the land—taking out without putting anything back and allowing damage to occur without taking steps to repair it. So, to discuss care in isolation from all the production issues and the necessary inputs needed to sustain that care and to meet other human desires (as often occurs) is to leave much of the story untold.

The following are two examples of 'care and use' in dry-land crop/animal production, one in a developed country—Australia, and one in a

developing country—Niger. In neither example could lack of care be usefully attributed to specific human 'sin' on the part of the practitioners nor could biblical teaching have provided more than general principles, which presumably it did. Rather, both arose largely from the mis-application of information from one setting into another.

Examples of care and use

Australia

One could enumerate many specific sites, land types or agricultural systems in Australia which have suffered damage to a greater or lesser degree from lack of knowledge, insufficient research, over exploitation, pollution, etc. In more recent years these kinds of problems have been recognised and steps taken to reduce at least some of them. No doubt there are other problems which we have not yet recognised.

Much of the pre-scientific development in farm production and management occurred in an evolutionary way in the heavy clay soils in the Old World. In Australia our forebears were slow to recognise the need for different systems in the way we managed our dry, light (sandy) soils. So our rural history is littered with stories of failed management systems and our farmyards with obsolete machines.

The classical example of 'care' and lack of it, is the story of the wheat industry in the wheat-sheep areas in SE and SW Australia. In it the cropping cycle involved, in its simplest form, a wheat–wheat–pasture rotation. The latter phase for sheep was based on native and introduced medics and clovers (legumes) which provided nitrogen for the subsequent cereal crops. As the only other major input was phosphorus fertilizer for our deficient soils it was essentially a low-cost, low-yield system but this was satisfactory as land was cheap and plentiful.

Figure 1 shows the average Australian wheat yields for the last 150 years. In the various phases we can recognise:

(a) In the early stages of development (1870–1910) the lack of 'care', resulting in soil depletion, declining yields and social dislocation, included:

- lack of necessary inputs—nutrient exhaustion;
- tree removal—dry-land salting;
- inappropriate (European) cultivation methods—wind erosion.

(b) Later in the period 1890–1950, 'care', resulting in increasing yields, increasing production, improved amenity included:

- fallowing—moisture retention, improved soil structure;
- appropriate and reduced cultivation/stubble retention—reduced erosion, improved soil structure;
- necessary fertilization—applied and natural (from legumes);
- new varieties.

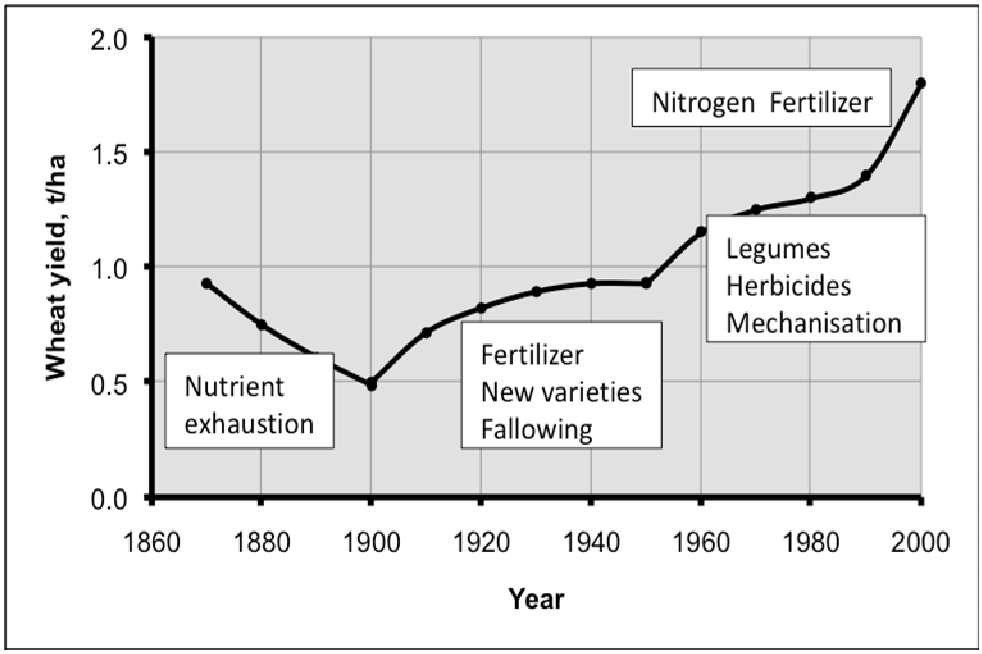

Figure 1: Trends in mean Australian wheat yield since 1870; derived from Donald (1967) and Angus (2001).

(c) The post-war period (1945–1960) included:

- crop rotations—reduced pests and diseases;
- mixed cereal/sheep (with legume) cropping—natural (nitrogen) fertilizer, efficient wool and meat production;
- more timely operations—mechanisation.

In this example it is clear that lack of care was not primarily the result of an identifiable human sin nor was/is there a simple one shot solution to providing 'care' for our wheat growing system. The care that was eventually provided resulted from a century of on-going, basic scientific research and good husbandry. This produced a world class example of sustainable and productive land care and use based on a symbiotic relationship of plant and animals.

This provision of care was/is not a particularly 'Christian' or 'biblically' based process although of course it is part of a creation that is 'good' and uses green plants and appropriate animals which humans were given for food and fibre. Its 'use' in these ways provided and continues to provide such food and associated enjoyment to generations of Australians and others in overseas countries.

One might argue that increasing yield is not necessarily a satisfactory measure of 'care'. However, if we accept the (use) production as an important function of creation and the need to feed (care for) many people (who are also part of creation) then at least sustaining yield for over 150 years could be seen as satisfactory. This seems reasonable in the circumstance in which some other factor has not appeared in the

system which can be identified as damaging to the environment. However this might appear at some time in the future (see on).

Niger

This example which comes from a report by Tony Rinaudo (2005) illustrates how ignorance and perhaps lack of care (as aid) by Western society combine to limit the use and enjoyment of their land by people in sub-Saharan Africa.

> For many years conventional Western forestry methods have been applied and exotic tree species promoted in Sahelian countries in order to combat desertification. Little thought was given to the appropriateness of these methods. Indigenous species were generally dismissed as 'useless' scrub. In the name of afforestation, many projects even cleared the 'useless scrub' to make way for exotics. Often these were simply planted in fields containing living and sprouting stumps of indigenous vegetation, the presence of which was barely acknowledged, let alone seen as important.
>
> This was an enormous oversight. In fact, these living stumps constitute a vast 'underground forest', just waiting for a little encouragement to grow and provide multiple benefits at little or no cost. These live stumps may produce between ten and fifty stems each. During the process of traditional land preparation, farmers treated these stems as weeds, slashing and burning them before sowing their food crops. Under this management system, the stems rarely grow beyond 1.5 meters tall before being slashed again. The net result is a barren landscape for much of the year with few mature trees remaining. To the casual observer, the land appears to be turning to desert and most would conclude that tree planting is required to restore it.
>
> I realised that even if a (re-afforestation) project ran for a decade with a large budget, using conventional methods, it would have minimal impact. The realisation of the futility of the current approach weighed heavily on me and in 1983, while on route to a village, I stopped the car and looked out over the barren landscape and said a silent prayer asking for wisdom and a breakthrough. Then, for the first time I "saw" what had been there all along—a sea, not of insignificant desert shrubs, but a sea of felled trees, the stumps of which were re-sprouting. In other words, an underground forest just waiting to be discovered.
>
> Tentative steps to introduce Farmer Managed Natural Regeneration (FMNR) commenced in 1983, in the ... Niger Republic. Twenty-two years on, the results have been amazing with FMNR being practised in one form or another across Niger and beyond. Trees have become a cash crop with multiple benefits. Once this was established, the revolution began, moving slowly but surely from farmer to farmer and eventually across the nation, often aided by various development agencies.
>
> Farmers choose the stumps they will manage, how many stems they will prune, when and how they will prune the stems, and when they will harvest the wood and what they will do with it. Because FMNR can become a grass roots movement, large areas of land can be 're-treed'

> rapidly and for little or no cost, resulting in increased bio-diversity and benefits to people, the environment, soils, crops and livestock.
>
> FMNR's potential to reverse desertification and land degradation while positively impacting the welfare of communities is enormous, yet it is little known or appreciated. Wherever conditions are appropriate, foresters, agriculturalists, project planners and farmers can benefit from the practice of FMNR.
>
> Rinaudo 2005

Thus we see not a spiritual 'failure' (eventually a spiritual success) but a failure because of the mis-application of knowledge. It was originally not clear what 'care' meant but it became clear that 'care' did not preclude use of the natural trees and indeed when correct use was understood and practised, both care and enjoyment became possible under the creation mandate.

Other modern, more general examples in agriculture could be discussed where the relationship of care, use and enjoyment has been distorted by attempts to maximize (short term) production by one or more of:

- excessive use by over stocking grazing land with the danger of erosion;
- excessive use by over or inappropriate cultivation and lack of crop rotations with danger of destroying soil structure and allowing erosion;
- use of inappropriate areas (for example, drainage lines) or failure to protect them;
- using large scale mono-cultures with the danger of encouraging pest and diseases;
- using maximum irrigation with the danger of causing salinity;
- failure to remove/control pest weeds/animals (for example blackberries, rabbits, kangaroos);
- cutting old growth forests which destroys flora and fauna habitat.

In addition to these examples of agricultural distortions of the care, use and enjoyment of land are other examples of mis-use (lack of care) in which good agricultural land is used for non-agricultural purposes, for example urban and industrial building and development, life style hobbies, mining, etc.

Paying for care from use

One of the changes which often takes place in agriculture and other technological systems is the replacement of one process, which is being shown to be harmful to the environment, by another which avoids that harm and/or has some advantages, for example lower cost, less damage to soil, air, water, humans, etc.

This is illustrated by more recent developments in our crop production systems where the reduction in tillage noted above has been achieved by the use of herbicides to kill weeds or the previous crop, frequently

pasture. Now while there might be an obvious and immediate net reduction in the energy consumption from this change, there *might* also be long term damage to biological systems in the soil which will only become obvious at some later time. Damage from the latter process may prove more serious than the damage it was designed to eliminate. Again, what it means to 'care' in this context is not immediately clear.

The obvious conclusion from the examples given above is that the care of creation is not a simple process. It is only likely to be successful if it is based on a productive system which can justify the cost of a continuing program of research to eliminate the processes or inputs which are shown to be damaging the land or other factors such as the consumers or native wild life.

Economic pressure on farmers (sometimes called declining terms of trade) forces / discourages research and encourages practices or methods for which the outcome is not wholly predictable within a useful time frame. An industrial failure may appear on the 7 pm news. An agricultural failure may appear a generation or two after a process is adopted, for example salting from clearing dry land or from irrigation, over commitment of water resources, plagues, etc. Such failures may also be exacerbated by global changes such as climate change which could not reasonably have been predicted.

However we now have the scientific skills (for example in analytical measurement and computer modelling) to greatly improve our care of creation by anticipating many of the problems which may arise. We also have the regulatory mechanisms for controlling the new developments that might be applied to our production systems, but we often do not have actual political will, the financial resources or the time to undertake the necessary research.

At a more local level the solution to many local land care problems are well known. The reason for lack of care is not a lack of knowledge but because the price paid to the producer for his crop is too low to cover all the costs of production plus the cost of 'land care' as discussed above. As a result, the latter tends to be put off until 'things look up'.

It is pleasing to note that a higher priority is now being given to care of the land by farmers themselves through local co-operative schemes such as the aptly named 'Land Care' movement and through Government support for land care.

The low price the producer receives is often the result of the 'industrialisation' of the market by large scale processors and distributors who have the economic muscle to limit the price which producers receive because the latter are often price 'takers' rather than price 'setters'.

For example, according to the Victorian Farmers Federation (2008):

> The price of bread has risen up to 70 cents a loaf in the past twelve months. However, only 14% of this is accountable to higher grain costs. The remaining 86% is the costs of marketers, flour millers, bakers and transporters ... The VFF has long held concerns about the issue of grocery prices, which have risen 43.6 % since 1996, compared with CPI rises of 28.8%. Australia is the only country in the developed world where food inflation is higher than the CPI.
>
> On average, growers currently receive around 20 cents of every grocery dollar spent at the checkout, but given that prices paid by farmers for their inputs have increased enormously, it doesn't make a lot of sense ... Farmers bear a higher risk component in the supply chain and should therefore benefit from higher profits.
>
> Victorian Farmers Federation, 2008

In such circumstances the intensity of production (kg/ha) must rise to cover the falling unit price ($/kg). This often results in damage to the land or to the producer or both. Increasing the price to the producer will not ensure better land care but certainly the opposite will be true.

If the above argument about the part that the financial return to the producer plays in care of the agricultural environment is even partly correct then there is little point in telling the Christian farmer (or anyone else) that she ought to 'care for her bit of creation' if we financially strangle her with insufficient returns and other costs.

> Indeed the real cost of food should take into account the real cost of production and should be increasing not decreasing ... the *real* cost of a loaf of bread includes the tonne of soil lost for each tonne of wheat produced ... Were the real costs of food production reflected in market prices, producers would be able to implement the sustainable practices which are available from modern agricultural science including ... long rotations in the cropping cycle ... and the use of low productivity but more sustainable systems.
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> Hynd 1996

Any introduction of price controls and a significant increase in the price of food paid at the farm gate will test our commitment to care of the rural environment. If this could be achieved (with a commensurate monitoring of the care that is actually undertaken) then we might accelerate what has already been started.

5. Care, use and enjoy as stewardship

How would the stewardship concept apply to the themes of care, use and enjoy? The steward would care for and maintain existing resources, use them to produce new resources and enjoy not just the master's approbation but the financial reward, associated enjoyment and rest that was commensurate with the faithfulness of his stewardship.

Care

Care of the rural environment will involve its use and management in care-full ways for the benefit of all in society. How this might be achieved in a context where commercial power is not equally distributed and where Christian stewardship is paid lip service seems to have eluded us as a society.

In a complex industry such as agriculture what is 'care-full' will not always be clear without significant research to avoid damage due to ignorance. But would society be willing to pay for the cost of such research for the purposes of avoiding some possible, future, ill-defined damage? Experience suggests that here, as in so many developments in the past, 'science' will follow 'art' and not lead it.

It is reasonable to say that in the 20th and now 21stC farmers in general attempt to take care of their land, at least in ways that they now understand and with the resources which they have available. Whether they are careful enough when it comes, for example, to genetic modification of crops, growth promotion in animals or other modern biological treatments might be a subject for discussion.

Use

The 'use' theme in Genesis justifies our 'care-full' exploitation of the earth, if it involves the production of food and fibre for the whole community and also for others who need it and receive it as the result of trade or aid.

The land ownership laws which allow and encourage the ready availability of land for local production and sale of staple food is crucial for care of creation including the welfare of individuals and local societies. The corporate ownership of land and the industrial production and sale of product often deprives local communities of the necessary control of their own social structures and is unlikely to promote care of their land or the long term enjoyment of its produce.

Enjoy

Enjoyment will appear as the result of appropriate care and use by all of the community and result in stable social structures and wholistic life styles under local control. With care and use society can expect to and does find enjoyment in its forests and fields whether they are productive for food and fibre or inspirational for wonder and worship.

At a more personal level, happy indeed are those who enjoy their daily work of creation and take pleasure in it when they revisit or use it from time to time. And who, on completing a plantation in an eroded water-way, the shearing of a mob of sheep or the making of a batch of scones for a sick neighbour has not said to themselves, if not aloud, 'a good job, well done'?

Rest

The rest that is mentioned following the completion of creation (Genesis 2:2–3) is presumably more of a model for human benefit (and later for the sabbatical laws) than because God had grown tired as human bodies do (Isaiah 40:28). The over-use of land due to human greed or in an effort to make up for inadequate returns often results in lack of rest that was intended to be part of the created, weekly and seasonal cycle for land and labour; in these ways we are care-less of both. And who has not blessed the Creator for a day of rest in the weekly round, a week or two when the seasons allow, and perhaps even a jubilee year!

At a societal level the law that established a universal day of rest in the Roman world in the 4th century was for centuries of great benefit for human kind especially for those who engaged and still engage in hard physical work. The 20thC has largely seen the abolition of both this common work-free day and of the concept of a period of rest and relaxation, both of which originated in the creation mandate. This has deprived many in society of a right and benefit, the loss of which may, in the long run, be to the detriment of society as a whole.

6. Conclusion

The richness of the creation which has been given to human kind is illustrated in both its diversity and fruitfulness but also in its complexity and usefulness. In the biblical story it is 'given' to humans as to a steward with responsibilities of care and use but also the privileges of enjoyment and rest.

These ideas have spiritual and technical aspects, hence both need to be kept in view and discussed theologically and technologically if a faithful but practical understanding of these themes is to be obtained. The technical aspects are perhaps more difficult to deal with as the principles require some background in the various fields before they can be confidently applied—lest we be just sharing our ignorance.

There is also a variation in time, place and socio-economic conditions as to how these themes might be applied. What is care in one situation may be abuse in another; what is enjoyment for one may be at the cost of care for another.

For example, in the general rural environmental field:

- Where should we allocate our water?—Cities, forests, cereals, animals, fruit and vegetables or lawns and home gardens?
- What crops should we grow?—Primary, staples, exotic, export, seasonal or year round?
- How should we use the water?—Flood irrigation, drip irrigation or no irrigation?

- How we should use our land?—Food production, suburban development, life style blocks, hobby farms or to whoever has the money?
- How should we grow our crops?—Glasshouse, irrigated or dry-land?
- How should we keep our stock?—Range fed, grass fed, or feedlot—or none?

In struggling with these decisions many in our rural society will recognise the environmental pressure to 'care', the economic pressure to 'use' (produce), the social pressure to 'enjoy' and perhaps the family pressure to rest! What does it mean to 'care', 'use', 'enjoy' and 'rest' in creation for them, in these situations? Can we achieve all four?

Similar questions could be asked in other areas. Where are those who will ask them; where are those who will answer them?!

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